

LEARN SIMPLE RUST TECHNIQUES »

FineScale.com

FineScale Modeler®

February 2016



p.20

YOU'LL DIG THIS MIG!

HOW TO BUILD
A STUNNING
1970s FIGHTER –
CZECH IT OUT p.24

Ricardo Dacoba's 1/48 scale
Eduard MiG-21MF



PLUS

Learn to layer and shade uniforms p.18

New weathering for an old Panzer IV p.44

Going big with a small-scale Albatross p.38

SPECIAL
AUSSIE
SHOW
GALLERY

p.52



OUR EXPERTS BUILD & REVIEW 6 NEW KITS

BONUS
ONLINE
CONTENT
CODE
PAGE 3

Vol. 34 • Issue 2



Proudly present our
Museum Quality Model
Kitsets available from....

LATEST RELEASES!

www.wingnutwings.com



DH.9a 29939, Vulcan built, 8 Sqn RAAF, Iraq, mid 1920s



DH.9a H3510 'L', Westland built, AC Jones Williams & Benson, 8 flight, 8 Sqn RAAF, Iraq, 1923 to 1924



DH.9a H3552, Vulcan built, 39 Sqn RAAF, UK, June July 1923



DH.9a A2-37, Berwick built, 8 flight, 1 FTS RAAF, Australia, 1922



Polikarpov R-1 'AMYRA', 19th Special Aviation Group, USSR, 1929



32061

DH.9a 'NINAK' (Post War)

1/32



32060 Bristol F.2b Fighter (Post War) 1/32



32046 Mystery New Model 1/32



32061 DH.9a 'NINAK' (Post War) 1/32

Easy and safe online ordering through our website. Pay securely with your credit card or Paypal.

Availability expected December 2015 © 2015 Wingnut Wings Ltd. PO Box 15-319 Miramar, Wellington 6022 New Zealand. All rights reserved.

CONTENTS

February 2016 • Vol. 34 • No. 2

Online Content Code: **FSM1602**
Enter this code at www.FineScale.com/code
to gain access to web-exclusive content.



20



24



38



50



52

18 FORM & FIGURE
Basics of clothing
Layering and shading for uniform colors
JOE HUDSON

20 AIRBRUSHING & FINISHING
Simple yet effective rust
Methods for modeling corrosion
CRISTIAN LUPU

24 Czech it out!
Eduard's multiple-choice MiG-21MF
RICARDO DACOBA

28 Winterizing Tamiya's SU-122
Step-by-step camo for a Soviet SPG
STEPHEN JUNG

38 Search and rescue an Albatross
Going big in a small scale
FRANK CUDEN

44 Old model, new weathering
Finishing Tamiya's 1970s PzKpfw IVD
DAVE FOREST

50 Drawing weld seams on ships
A simple technique to boost details
GREG EMBREE

52 SHOW GALLERY
Australian Model Expo 2015

66 FINAL DETAILS
Frankly, it's just for fun
MARK HEMBREE

WORKBENCH REVIEWS

6 NEW KITS p. 56

- Kitty Hawk Bell-P-39 Airacobra
- HobbyBoss A-6E Intruder
- ModelCollect E-75 tank
- Roden Bristol 175 Britannia
- Kitty Hawk OV-10A/C
- Airfix jet engine



56



61



62

In Every Issue

- | | | | |
|----|-----------------------|----|--------------------------------|
| 5 | Editor's Page | 54 | Reader Tips |
| 7 | Scale Talk | 55 | Questions & Answers |
| 10 | Spotlight | 64 | Classified Marketplace |
| 13 | New Products | 65 | Hobby Shop Directory |
| 34 | Reader Gallery | 65 | Advertiser Index |

On the Cover

FSM frequent flyer Ricardo Dacoba has few peers when it comes to building and finishing aircraft — as he amply demonstrates here with fundamental techniques for a Czech MiG-21MF.

Get more at www.FineScale.com!

Visit our website! You can enjoy more modeling photos and feature articles, access additional modeling resources, get industry news, see previews of upcoming issues, or register to participate in our forum. And it's free!

Subscribers: Click on "Register," enter the customer number from your subscription label, and throughout your subscription you'll have unlimited access to bonus features, more than 1,400 kit reviews, and a database of more than 14,000 products!

FineScale Modeler (ISSN 0277-979X, USPS No. 679-590) is published monthly (except for June & August) by Kalmbach Publishing Co., 21027 Crossroads Circle, P.O. Box 1612, Waukesha, WI 53187. Periodicals Postage is paid at Waukesha, WI and additional offices. Postmaster: Send address changes to FineScale Modeler, 21027 Crossroads Circle, P.O. Box 1612, Waukesha, WI 53187-1612. Canada Post Publication Mail Agreement #40010760.

PAINT BOOTHS

**3 Models
Available!**

Starting at
\$265.00

TOLL FREE 1-877-872-4780

Check out our Web site!

WWW.PACEPAINTBOOTHS.COM

Non-toxic • Non-flammable • Easy to Use • 0% Shrinkage • Waterproof • Superior Strength & Detail

AVES®

Products will Blow you Away!

Make sure Apoxie® Sculpt is in your Arsenal!

- Your aid in customization & fabrication.
- Perfect for figurine conversions, original sculptures, kit bashing, tanks, trains, boats & planes.
- Create your own tarps, coats, bedrolls, ground work, rocks, etc.
- Apoxie® Sculpt adheres to: vinyl, plastic, resin, kits, wood, metal, ceramic, glass, polymers, foam, fiberglass & more!
- Ask your hobby shop to carry Aves® products!
- Visit our web site for more information.



Elefant with Custom
Apoxie® Sculpt Zimmerit
by Joe Porter

P.O. Box 344
River Falls, WI 54022
1-800-261-2837
www.avesstudio.com

©AVES 2003

MEGA

HOBBY®

MEGAHOBBY.COM

**Visit the largest hobby shop in the U.S.
from the comfort of your own home**



Over 50,000 products in dozens of categories. Call to speak with one of our experts! 888-642-0093

SCALE 1/100

NO GLUE REQUIRED



QUICK ASSEMBLING!

PERFECT FOR MODELLERS AND WARGAMERS



zvezda-usa.com

EDITOR'S PAGE

By Mark Savage

FSM casts its own worldwide web

FOLKS TALK A LOT about the World Wide Web, but they're usually yakking about that electronic etherland where ideas and oddball photos propagate like fungus in a rain forest.

At *FineScale Modeler*, we consider our worldwide web our network of contributors and modeling friends from around the globe. While we're based in the U.S. heartland — a stone's throw from Lake Michigan, a few miles from dairy farms, and an hour from the frozen tundra of Lambeau Field — we cast an increasingly wide web ourselves.

For instance, not only is *FSM* sold in 35 countries, but we actively recruit noted modelers from around the world to share their tips and techniques.

Case in point is this issue's lineup.

The cover story showcases Argentina's Ricardo Dacoba making a fabulous Czechoslovakian MiG-21 fighter.

Our Airbrushing & Finishing column this issue is written by

THERE'S NO REASON YOU CAN'T BE PART OF THE FUN, TOO.

Cristian Lupu of Germany and details the fine art of creating better rust. (I had a '71 Plymouth Duster that was expert at making rust, but that's another story!)

In the second half of the mag, we feature Dave Forest's story about applying new weathering techniques to a 1970s Tamiya Panzer IV. Dave hails from a bit north of us in Canada.

We follow that with a gallery of expertly built models from the

Australian Model Expo 2015. Our Aussie connection, Aaron Skinner, rounded these up from his mates and nary a wallaby was harmed in the process!

There's no reason *you* can't be part of the fun too, no matter where you live. Send us photos for Reader Gallery, a tip to share with other readers, or a question or comment. Or a story! We welcome new authors.

We're as close as your link to the World Wide Web. Now let's go build something fun!



editor@finescale.com

 www.FineScale.com

Want to learn more? For the latest news, as well as modeling tips and techniques, visit our website at www.FineScale.com

Your Editorial Staff



Editor
Mark Savage
msavage
@Kalmbach.com



Senior Editor
Aaron Skinner
askinner
@FineScale.com



Associate Editor
Mark Hembree
mhembree
@FineScale.com



Assistant Editor
Elizabeth Nash
enash
@FineScale.com



Editorial Associate
Monica Freitag
mfreitag
@FineScale.com

Off the Sprue!

What's your favorite song/group?

Skinner: Australian folk band Redgum's "The Last Frontier."

Hembree: Impossible to choose: Itzhak Perlman is the greatest violinist I ever heard; Kenny Baker, the greatest fiddler.

Nash: "Eleanor Rigby" by the Beatles and "Life, in a Nutshell" by Barenaked Ladies.

Freitag: "Austin" by Blake Shelton is a consistent favorite.

Contact Us

Editorial: FineScale Modeler
21027 Crossroads Circle, P.O. Box 1612,
Waukesha, WI 53187-1612
262-796-8776, weekdays 8:30 a.m. to 5 p.m. CT
Fax: 262-796-1383
editor@finescale.com
Website: www.FineScale.com

Customer service (subscriptions, renewals, and consumer products):
800-533-6644, weekdays 8:30 a.m. to 4:30 p.m. CT;
outside the U.S. and Canada 262-796-8776 ext.421
Fax: 262-796-1615
customerservice@kalmbach.com

Advertising and trade orders:
888-558-1544, weekdays 8:30 a.m. to 5 p.m. CT;
outside the U.S.,
262-796-8776 / Fax: 262-796-0126
Advertising e-mail: jhagerty@finescale.com
Trade Sales e-mail: tradesales@kalmbach.com

HumbrolTM Paints & Accessories

Enamel Paints 14ml
Acrylic Paints 14ml



Turn your model kit into a masterpiece!

Humbrol.com



FineScale Modeler

Editor Mark Savage
Art Director Tom Ford
Senior Editor Aaron Skinner
Associate Editor Mark Hembree
Assistant Editor Elizabeth Nash
Editorial Associate Monica Freitag
Illustrator Kellie Jaeger
Photographer William Zuback
Production Coordinator Cindy Barder

CONTRIBUTING MODELERS

Paul Boyer, Federico Collada, Andrew Cooper, Raúl Corral, Frank Cuden, Phillip Gore, James Green, Joe Hudson, Karl Logan, Harvey Low, Rato Marczak, Chris Mrosko, Bill Plunk, Darren Roberts, Chuck Sawyer, Cookie Sewell, Bob Steinbrunn, Cristóbal Vergara, Jim Wechsler, Adam Wilder

CONTACT US

Customer Sales and Service 800-533-6644
Advertising Sales 888-558-1544
Group Sales Manager Rick Albers, Ext. 652
Ad Sales Representative Jim Hagerty, Ext. 549
Ad Services Representative Jen Zalesky, Ext. 620

SELLING FINESCALE MODELER MAGAZINE OR PRODUCTS IN YOUR STORE

Phone 800-558-1544, Press 3
Outside U.S. & Canada 262-796-8776, Ext. 818
Fax 262-798-6592
E-mail tss@Kalmbach.com
Website www.Retailers.Kalmbach.com

KALMBACH PUBLISHING CO.

President Charles R. Croft
Vice President, Editorial, Publisher Kevin P. Keefe
Senior V.P., Sales & Marketing Daniel R. Lance
Vice President, Consumer Marketing Nicole McGuire
General Manager Brian J. Schmidt
Advertising Director Scott Bong
Corporate Art Director Maureen M. Schimmel
Art and Production Manager Michael Soliday
Circulation Manager Cathy Daniels
Single Copy Specialist Kim Redmond

©2015, Kalmbach Publishing Co. All rights reserved. Title is registered as trademark. This publication may not be reproduced in part or in whole without written permission from the publisher, except in the case of brief quotations used in reviews. **Postmaster:** Periodicals postage paid at Waukesha, Wisconsin, and additional offices. Send address changes to *FineScale Modeler*, Kalmbach Publishing Co., 21027 Crossroads Circle, P.O. Box 1612, Waukesha, WI 53187-1612.

SUBSCRIPTION RATES: single copy \$6.99; U.S.: 1 year (10 issues), \$39.95; 2 years (20 issues), \$74.95; 3 years (30 issues), \$94.95. Canada: Add \$8 postage per year. All other international subscriptions: Add \$12 postage per year. Payable in U.S. funds, drawn on a U.S. bank. Canadian price includes GST (Canada Publication Mail Agreement #40010760, BN 12271 3209 RT). **Expedited Delivery Service:** Domestic First Class, add \$20/yr.; Canadian air, add \$20/yr.; International air, add \$45/yr.

Letters, new releases, and new-product information are accepted as gratis contributions to *FineScale Modeler*. Feature articles and scale drawings are paid for on acceptance. All other submissions are paid for upon publication, at which time *FineScale Modeler* obtains all reproduction rights unless otherwise agreed. Instructions for submitting features, photos, and drawings for publication are available online at www.FineScale.com/contribute. Unsolicited material will be returned only if postage and envelope are provided. *FineScale Modeler* is not responsible for the safe return of unsolicited material. Printed in U.S.A.

KALMBACH PUBLISHING CO.



Micro-Mark[®]

Berkeley Heights, New Jersey 07922

THE source for unique, hard-to-find tools and model building supplies at low prices

FREE!
Seam Scraper
with ANY order
over \$20!

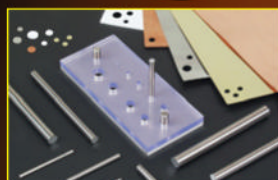
A \$22.15
value!



To receive your **FREE Seam Scraper**, place your order online at www.micromark.com/4205

or call **908-464-2984** and mention promo code **4205**

Offer expires 2/28/16. Pre-Orders excluded. Cannot be combined with any other offer.



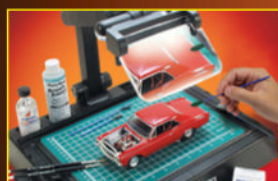
#83513 Micro Punch Set
Only \$59.95



#86104 Compact Fold-Up Spray Booth
As low as \$84.95 ea.



#80806 Parafilm M...the Conformable Masking Material **Only \$11.95**



#83827 Hobby Work Station for Modelers **Only \$130.95**



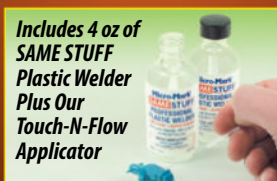
#86110 MicroLux Double Action Airbrush Set **Only \$49.95**



#81415 Rinse Well is Like Having a Sink on Your Workbench **Only \$26.80**



#84709 30/0 Micro-Miniature Paint Brush Set **Only \$36.50**



Includes 4 oz of SAME STUFF Plastic Welder Plus Our Touch-N-Flow Applicator

#84131 SAME STUFF...Liquid Plastic Welder **Only \$17.50**



#82393 Tweezer-Like Nipper Desprues the Tiniest Parts **Only \$19.95**



#85756 Compact All-In-One Vacuum Forming Machine **Only \$134.95**



#82698 Complete Resin Casting Starter Set **Only \$99.95**



#60924 Precision Knife Set **Only \$18.75**

FREE Catalog with an order from this ad! Prices guaranteed through February 28, 2016. S&H extra.

SCALE TALK

Your voice in *FSM*



Hidden droid code

Nice touch, *FineScale Modeler*, with the December 2015 issue and the droid in the inset on the front cover with the Morse code “page 47.”

— Michael Campbell

Niagara Falls, Ontario, Canada

Ed.: Congrats Mike, you got it!

Restart off simple

Advice for those re-entering the hobby: Keep it simple.

I found that after being out of modeling for a few years it was very intimidating to “jump back in,” especially now with all the highly detailed kits, aftermarket parts, and new paints/finishes available. For those of us over 60, those eyes aren’t what they used to be.

I discovered the proper re-entry level is to keep it very simple and straightforward. Get a kit with 75 parts or less and hit the workbench. I see Wal-Mart sells a 15-minute kit — now that’s pretty simple and easy. You can doll it up all you want after it’s assembled. Detailed kits of 150 or 200 parts can be overwhelming, but remember that modeling is supposed to be fun and enjoyable — and it can be, no matter what your age.

So think simple, forget the little parts that need forceps to attach, forgo the three-layered paint job, and you’ll be shocked with the fun you have. After an easy kit or two, you can work your way back up the modeling ladder. If it worked for me, it can for you too.

Now, I have taken my years of modeling

Let us know what you think!

Comments, suggestions, corrections, and additional views on *FSM* articles are welcome. E-mail your thoughts to editor@FineScale.com, or visit FineScale.com and click on “Contribute to *FSM*.” You can also mail typed or handwritten letters to the address on p. 6. Clearly mark “To the Editor” on the envelope. Please limit your comments to no more than 300 words and include your name and location.

and incorporated them into diorama building — a whole new area of modeling fun! Use your imagination and dust off that workbench!

— Stanley Swan

Newark, N.Y.

Ed.: We agree with you Stan. When re-entering the hobby, it's good to start with less-complex models and then literally build your way up from there. And yes, it should always be fun!

Where are the Mk.I and X planes?

I enjoyed the article on the Saint-Chamond in the November 2015 issue. I too built this model, and masking to airbrush the camouflage was a challenge. Then I began to wonder, and then I did the research.

It seems the spray gun was invented in the 1880s. They were used to paint buildings and furniture. Spray painting was not used on vehicles until the 1920s. This means all World War I vehicles, including aircraft, were painted by hand. (Can you imagine painting and doping a Zeppelin?) I am not sure about the camouflage on WWI planes. I do know the German lozenge pattern was printed on the linen that covered the aircraft and was then covered with dope painted on with a brush. I don’t know if anyone else did that. So brush marks on WWI stuff should not cost you.

While I have you, I have a question for manufacturers: Where the heck is the WWI Mark I tank? This is only the most important tank of the war, simply because it was the first tank! You can get many versions of the Mark IV, and they are coming out with a Mark V.

I also concur with Terry Lawver in the Scale Talk section on the shortage of X planes, especially the X-15. We wouldn’t have made it to the moon without the X-15. I want one in 1/48 scale. I did find one, but I didn’t feel like remortgaging the house. Come on! We have enough Bf 109s, P-51s, Shermans, and Tigers.

You used to have a thing where you asked the readers what they want to see. Are you going to do that again, and are the manufacturers going to start listening?

— Chester L. Mohn

New Cumberland, Pa.

Ed.: Yes, we'll be asking readers again shortly for their choices of what kits they want to see. Stay tuned! More good news: Takom recently announced a 1/35 scale Mark I tank.

ARA Press

The Spaceship Enthusiasts’
One-Stop Data Shop!

Soviet Smashup!

Our two titles dealing with Soviet space programs available in this special combination offer.

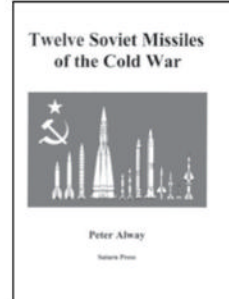
Peter Alway’s *Twelve Soviet Missiles*, a survey of Soviet military missiles from the 1950’s and ’60s, makes the perfect companion for our critically acclaimed *N-1: For the Moon and Mars* which tells complete story of the N-1 Superbooster.

Get both of them together at a significant savings!

- 235 Pages, 80 lb coated stock
- Smythe-sewn Hardcover binding
- Over 400 photographs and illustrations, most in color
- Over 100 pages of Dimensioned Drawings and hardware analyses



- 34 Pages
- Softcover, laser printed
- Color cover plus 18 B&W photos
- Spiral wire bound w/ scuff resistant polymer covers
- 15 Detailed Data Drawings.



Only \$50 (an \$8 savings)!
We’ll even pay domestic shipping!

Please visit our website to order on-line.

All Credit Cards and PayPal accepted.

Call or write “info@arapress.com” for shipping options.

Sales Tax added for CA orders



ARA Press

785 Jefferson Ave.
Livermore, CA 94550
(925) 583-5126
www.arapress.com

Slide Fit Micro Tube/Rod for Super Detailing

CONNECTO

Create complex 3D Shapes with Micro Tube

1001 Modelling and Hobby uses

You Tube Videos/PDF's of complete product range available at:
www.albionhobbies.com

please email us for your nearest dealer details
sales@albionalloys.co.uk



Photoetched Details
For the DeAgostini Subscription Kit's
Cockpit, Hold, and Corridors
NEW!
Includes super-detailed decals
PARAGRAFIX
www.paragrafix.biz
Photograph & Buildup
Courtesy of Iain Costall

FLEX-I-FILE Demand the Brand™

It's Hobby Season! Stock up NOW

Touch-N-Flow System
The Best Plastic Welding System on the market!
Item #7000
Join the Pro's, bring your modelling to the next level

Abrasive Files & Tapes
Item #550
Proven the Best, for over 45 years!
Guaranteed Results.

www.flex-i-file.com
Toll Free 1-800-506-9618

Order ONLINE Today

SCALE TALK



Gary, who built the bus from "Agents of S.H.I.E.L.D" and a "Walking Dead"-inspired diorama, says make something. Don't worry about making it perfect, just enjoy the process.

Rediscovering your hobby

Reading the September 2015 *FSM*, I wholeheartedly agree with Thomas E. Metz on why people should model: to have fun and enjoy the experience without worrying about whether their models are of museum quality.

I'm 47 now, but in my youth I was an avid modeler brought up on Matchbox and Airfix kits. As I got older and more skilled, I focused exclusively on my main interest: science fiction and fantasy. Taking a lot of tips from *FSM* (I still remember my first issue, which had a 1/72 scale USS *Nimitz* on the cover!), I got quite adventurous. At the time, "Star Trek: The Next Generation" was at its peak, Halcyon was arriving on the scene, and I still remember hacking away at an "Aliens" APC to build a lighted interior with Tamiya U.S. Army figures converted into characters from the movie.

However, by the mid-1990s I'd put modeling to one side, never thinking I would take it up again. In 2011, after a stint with the Royal Air Force's No. 100 Squadron at RAF Leeming, I decided I'd love a model of one of their shiny black BAE Hawks in my office. You couldn't buy one pre-built, and I spent ages wondering if I could make it myself.

One day I found a Revell 1/32 scale Red Arrows Hawk on sale, so I took the plunge and bought it. With the help of aftermarket decals and a little scratchbuilding, I converted it into "Charlie Oscar." The results were much better than I'd hoped, and since then I've been averaging about a dozen projects a year and rediscovering my skills.

Once again I've turned to sci-fi and fantasy, and I sometimes like to stretch myself by picking subjects that don't even have a kit available, such as a diorama from "The Walking Dead" (inspired by the sculpting quality of some "army men" toy figures I saw).

So, I'm in full agreement with Mr. Metz, a very wise gentleman with a stunning col-



lection — those full shelves blow me away!

Finally, when I was modeling in the late 1980s, *FSM* was my magazine of choice. So I was delighted not only to return to the hobby but to the publication as well. I would say keep up the good work but, as there was a 20-year gap between me buying issues, I'd say you have that philosophy well and truly covered!

— Gary Kester,

Penshaw, Tyne and Wear, England

A cry for early destroyers

I generally agree with the comments from Terry Lawver and Kurt Eberling Jr. — we need another Bf 109 or P-51 or Corsair kit like we need a collective fat lip.

In my own case, I've long wondered why a decent, large-scale kit of that most-iconic aircraft for any baby boomer, Sky King's Cessna 310B *Songbird II* has not been forthcoming. The last 310 kit was the old box-scale Aurora kit from the late '50s/early '60s and, quite frankly, there is a whole line of 310 aircraft that a manufacturer could build on.

Also, where are the large-scale kits (1/144 scale, say) of any of the early classes of U.S. destroyers or the interwar classes. As far as the manufacturers are concerned, the only classes of U.S. destroyers are the flush-deckers and the *Fletchers*.

The variety of the early destroyers (there are nine classes from before WWI) offers fertile ground for a whole line of detailed kits. The same holds for the interwar classes. There are vast and untouched areas in kit manufacture — there is no need for "paper" models or yet another "ultimate" Mustang.

Kit manufacturers need to show some imagination — the success of the various 1/72 scale submarine kits points to the value of thinking along previously unexplored lines.

— John H. Hager
Wheeling, Ill.

Longs for link-and-length tracks

I would like to see armor kits come with reasonably detailed and flexible band tracks or link-and-length tracks, rather than just migrating toward individual links. Some recent kits now have as many as five pieces per link! That's just too many repetitive parts for me, and perhaps others.

I realize my wish is bucking the trend, but I would guess that others might also appreciate having the option between simpler band, link-and-length, and the individual links.

– Paul Hubbell
Frederick, Md.

Inspiration found in FSM

The December issue was terrific! And for a number of reasons: The coverage of the IPMS convention had great photos, and a special treat for me was the 1/18 scale Duesenberg built by Bob Steinbrunn. Along with a builder by the name of Paul Budzik, Mr. Steinbrunn has given me so much incentive to do more as a modeler.

This is the greatest hobby there is. So thanks again!

– Gary F. Coleman
Longwood, Fla.

Missing Milwaukee hobby shop

Finally getting a chance to write you all at *FSM*. I love what you have done in the last few years to constantly improve content of the magazine with more in-depth and detailed articles about modeling and painting techniques.

The main reason I am writing is that on a recent visit to Milwaukee in June 2015, I went to visit my favorite hobby shop, Greenfield News and Hobby, and found an empty store. How sad! It was one of the highlights of visiting the area and was one of the best hobby shops I have had the opportunity to visit.

I always enjoyed seeing the finished models of your contributors (that have shown up in your magazine) in their display cases. They always had a great selection of models and finishing supplies as well as a wide range of magazines and books on the hobby.

They will be sorely missed. I'm sure you are missing them too.

– Alan Bengtson
Winston-Salem, N.C.

Ed.: We miss Greenfield too, Alan. Great folks and a great shop.



Chad took this photo at the Jacques Littlefield Collection in Los Trancos Woods, Calif.

Turbulent tanks

I have a few comments on Jim Zeske's review of Academy's T-34/85. I have not seen this kit, but I have been in a Soviet T-34/85. Jim says the cast turret texture is not to scale. The texture on the real T-34/85 is extremely rough. It looks like they cast it in a gravel pit! The texture is also patchy and irregular. The turret on this thing is rugged!

The rolled steel plates on the hull are fairly smooth, but the weld beads on the corners are huge. Each weld bead is probably ½" wide and stands out from the sur-

face of the armor plate. All of the welding is extremely rough. No time was spent on the finish of these tanks, either inside or out. They knocked them together and shoved them out the door as fast as possible. The only exception to the coarse finish is the main gun. That showed excellent fit, polish, and finish.

So the Soviets were capable of good work, but only where it was essential. Everything else was left rough but functional.

– Chad Pohlers
Castle Rock, Colo.

Clarification

In the IPMS/USA gallery in the December 2015 *FSM*, we understated the amount of work Marc Rocca did when he built Dragon 1/35 scale King Tiger (p. 33). He added Griffon photo-etched details and scratchbuilt some of the tools and pins for the spare track links on the turret. After adding torch-cut marks to all of the armor plate edges, he reworked all the weld seams and added rolled-steel texture to the entire model with Bondo body filler.

Big-scale Soviet mosquito boat

New 1/35 scale kit shows G-5-class' unique shape, design

Initiated by Italeri, several 1/35 scale World War II torpedo boat kits have been released in recent years. The Soviet Union had been absent from combatants represented — until now.

The G-5-class boat, kitted in 1/35 scale by Merit International (No. 63503), was the most numerous MTB in the Soviet navy when the Germans invaded in 1941. More than 300 were built, and they served on all Soviet fronts during the conflict, carrying out transport and escort duties, and sinking a few enemy ships.

Developed by an aviation company, the hull looks more like a sea-plane float than a boat. The underside features a stepped hydro-plane shape, and the upper hull is rounded, features that make the boat capable of speeds exceeding 50 knots.

The 19" hull is beautifully molded in two parts with engraved panel lines and petite raised rivets. Details like the torpedo rails, strakes, railings, and props look terrific. Two turrets with 12.7mm machine guns protect the vessel.

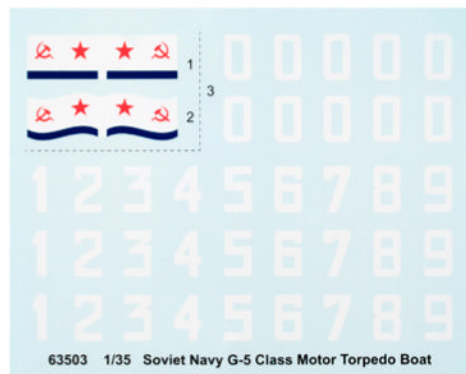
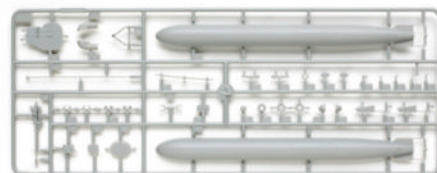
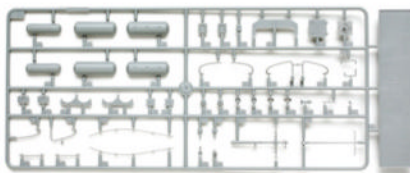
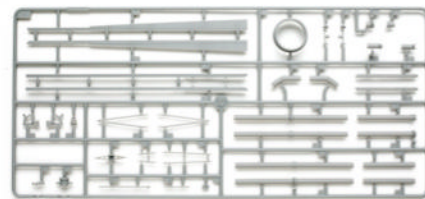
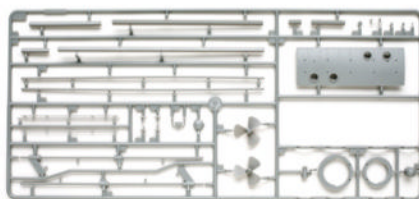
Clear plastic is used for windows on the bridge and skylights on the foredeck. A small photo-etched fret supplies props for the torpedoes, sights for the guns, and a couple of hull plates.

A stand is included along with a nameplate.

Decals provide Soviet naval flags and a matrix of numbers to mark the bridge.

On a shelf next to Italeri's PT boat and Schnellboot, Merit's G-5-class motor torpedo boat will make a great display of different design approaches to the same idea.

More info: www.merit-intl.com. The G-5 kit costs \$99.98.



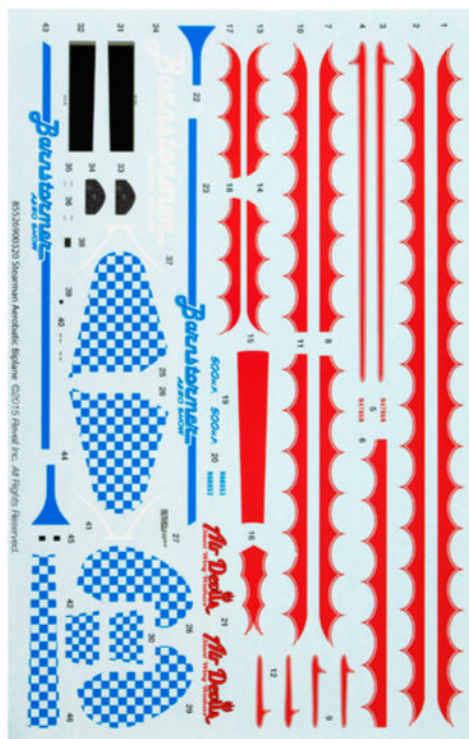
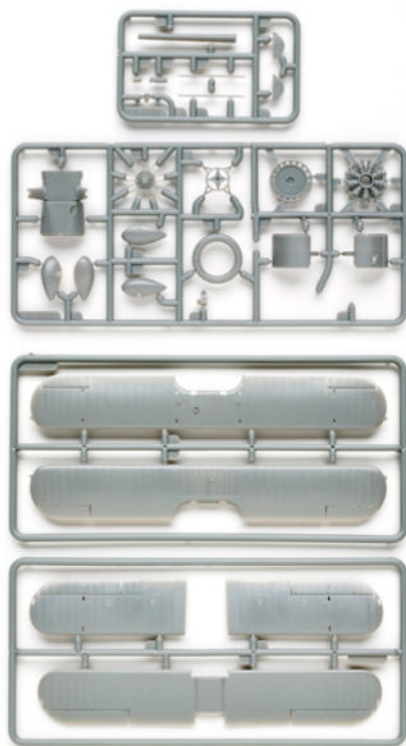
Revell puts new spin on a classic biplane

In 2014, Revell delighted modelers with an all-new 1/48 scale Stearman PT-17 biplane trainer. Now comes a natural follow-up: a Stearman aerobatic plane (No. 5269), the kind of thing that has delighted air-show goers for years at the hands of skilled pilots and wingwalkers.

The kit features retooled wings with ailerons on both upper and lower wings, as opposed to just the lower wing in the military trainer. Other new parts include a nine-cylinder Wasp Junior engine with a streamlined cowl, updated instrument panels, wheel spats, and a spine for the rear fuselage.

Decals provide markings for two colorful air-show Stearmans, one white with red scallops along leading edges, the other white with blue wings and checks on the tail planes.

Revell's aerobatic Stearman costs \$16.95. More info: www.revell.com.



The perfect way to put a hex on a model

One of the hardest aspects of scratchbuilding details is producing consistent shapes and sizes, especially for things like rivets and bolts. That's where a punch-and-die set comes in handy.

RP Toolz has released a series of these sets in several shapes and sizes. *FSM* received the hexagonal set, and I'm impressed by its durability. Each of the punches is attached to a sturdy cylindrical handle that makes handling them easy. A small hammer drives the punches through thick styrene with ease.

The die has a metal base with a heavy clear plastic top. The components are aligned with metal rods and held in place with plastic nuts.

Available from Metro Trains and Hobbies, www.metrotrainsandhobbies.com, the hexagonal punch-and-die set costs \$86.99.

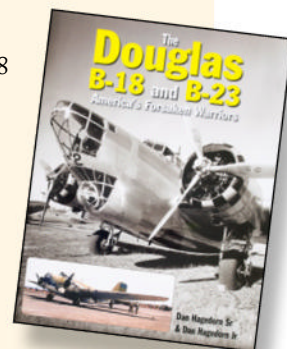


BOOKSHELF

Unsung Douglas bombers

It would be hard to argue that the B-18 Bolo is pretty, but Douglas' medium bomber played an important role in World War II. That heritage, as well as the development of the Bolo and its follow-up, the Dragon, are the focus of *The Douglas B-18 and B-23 — America's Forsaken Warriors* (Cr cy, ISBN 978-0-859-79178-6, \$39.95).

Father and son authors Dan Hagedorn Sr. and Dan Hagedorn Jr. spent more than 20 years researching the aircraft. The 288-page hardcover is packed with photos and information about the B-18's roles as a bomber trainer and antisubmarine patroller. It includes a daily operational chronology, a chapter on marking and camouflage, and line drawings — everything you need to build Special Hobby's 1/72 scale Bolo.



Fast propjet detailed

Developed from Republic's RF-84F Thunderflash to test supersonic propeller operations, the XF-84 failed to reach predicted speeds in testing. The shriek generated by the turbo-prop was unsafe for ground crew, and the project was terminated after just two airframes were completed. The odd-looking plane's short history is the subject of Steve Ginter's *Air Force Legends No. 219: Republic XF-84H Thunderscreech* (Ginter, ISBN 978-0-9968258-1-8, \$14.95).

Using period images and photos of the surviving XF-84H, Ginter examines the plane's development, flight testing, and final disposition. The 40-page softcover ends with a roundup of Thunderscreech kits.





SQUADRON.com

MAKING YOUR HOBBY TAKE FLIGHT

**LOWEST
PRICE
GUARANTEED!***

When shopping at Squadron, know that you are getting the best prices out there - guaranteed. If we're not the lowest, our customer service will price match our direct competitor's advertisements. *Some exclusions apply.

It's Cold Out!



Jef Verswyvel
Chief Modeler at Squadron

Stay Inside & Build!

**TAKE AN
EXTRA 10% OFF
YOUR
NEXT ORDER!**

Simply type SQFM0216 in "Coupon Code" box and click "Apply". Offer expires February 29, 2016. Cannot be combined with any other coupons.

Use coupon code:
SQFM0216

Order Today at WWW.SQUADRON.COM or call 1-877-414-0434

NEW PRODUCTS

Compiled by Monica Freitag

AIRCRAFT

1/24 SCALE KITS



Royal Aircraft Factory S.E.5a from Merit International, No. 62402. Contact your local dealer for price information.

1/48 SCALE KITS



AMX-T/1B fighter two-seater from Kinetic, No. K48027. Contact your local dealer for price information.

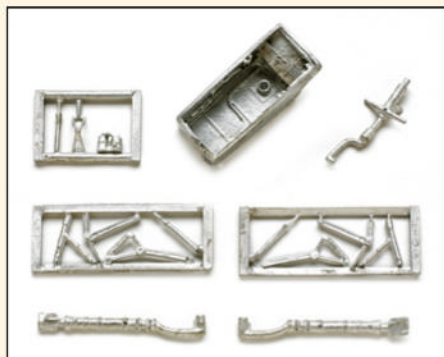


PLA JL-9 Plateau Eagle from Trumpeter, No. 2879, \$49.95. New tool.



Stearman Aerobatic biplane from Revell, No. 85-5269, \$16.95.

1/48 DETAIL SETS



F3D-2 Skyknight landing gear (for Czech Model/Encore) from Scale Aircraft Conversions, No. 48292, \$19.95. Retractable arms and braces altered to fit wheel bays; nose gear has added detail.

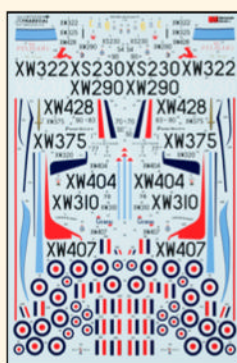
P-61A/B Black Widow landing gear (for HobbyBoss) from Scale Aircraft Conversions, No. 48293, \$17.95.

1/72 SCALE KITS



MiG-29A "Fulcrum" (Izdelye 9.12) from Trumpeter, No. 1674, \$34.95. New tool.

1/72 DECAL SETS

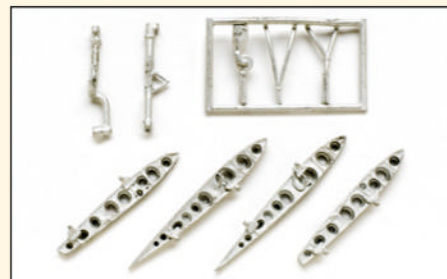


BAC Jet Provost T.Mk.5 RAF from Xtradecal, No. X72236, \$12.50. Includes 5 Display Teams, Linton Blades, Gemini Pair, The Swords, The Poachers, and Red Pelicans. XW230 T.5 Prototype, Boscombe Down, 1975, gray lower surfaces; XW230 T.5 Prototype, Boscombe

Down, 1995, blue lower surfaces; XW290/83 Central Flying School Red Pelicans Team, RAF Little Rissington, 1972; XW310/70 1 FTS Linton Blades Team; XW320 1 FTS Flt Lt D.I. Whittingham, RAF Linton-on-Ouse; XW322/1 RAF College, Cranwell, flown by HRH Prince Charles; XW325/E 6 FTS RAF Finningley, 1983; XW375/90 The Poachers Team RAF Cranwell

1971; XW404/77 1 FTS RAF Linton-on-Ouse 1980; XW407/50 3 FTS Gemini Pair Team, RAF Leeming, 1973; XW428/54 3 FTS The Swords Team, RAF Leeming, 1974.

1/72 DETAIL SETS



B5N2 Kate landing gear and wing folds (for Airfix) from Scale Aircraft Conversions, No. 72117, \$11.95.

Armstrong Whitley landing gear (for Airfix) from Scale Aircraft Conversions, No. 72115, \$13.95.

A-4 Skyhawk landing gear (for Fujimi and Hasegawa) from Scale Aircraft Conversions, No. 72116, \$12.95.

1/144 DETAIL SETS

C-54/DC-4 Skymaster landing gear (for Minicraft) from Scale Aircraft Conversions, No. 14422, \$11.95.

ARMOR

1/35 SCALE KITS



Chieftain Mk.5/5P (British main battle tank) 2 n°1 from Takom, No. 2027, \$66.95. Look for a detailed review in an upcoming issue of FSM.

www.FineScale.com

FineScale Modeler magazine receives new products from a variety of manufacturers on a daily basis and we are now able to share all of them with you through our interactive exclusive FSM product database. Click on the Product News link at www.FineScale.com.

NEW PRODUCTS



Skoda 42cm M1917 with Erich von Manstein heavy siege howitzer from Takom, No. 2018, \$49.95.



M-60P Yugoslavian armored personnel carrier from Triglav Models, No. TB1001, \$127.



M4A3E8 Sherman "Easy Eight" European Theater from Tamiya America, No. 35346, \$53. Military Miniature Series No. 346.

1/35 DETAIL SETS



Maus from Friulmodel, No. ATL-162, \$64. 440 metal track links; **Churchill early type track** from Friulmodel, No. ATL-164, \$25. 146 metal track links.



Challenger 2 early type track from Friulmodel, No. ATL-163, \$32. 160 metal track links.



Marder 1 A1/A2/A3/A4 from Friulmodel, No. ATL-113, \$29. 185 metal track links.

CUSTOMER SERVICE CENTER

Manage your subscription online
(Registration Required)

www.Kalmbach.com/help

- Change Address or E-mail Address
- Report Damaged or Missing Issues
- Check Expiration of Subscription
- Subscribe
- Renew Subscription
- Pay Bill
- Check Payment Status
- Newsletter Management

K KALMBACH PUBLISHING CO.

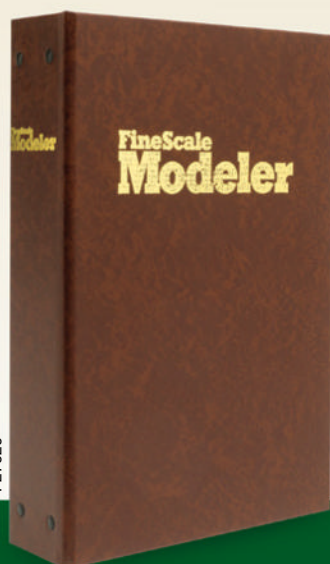
For all of our publications!

What's New?

Watch the **New Product Rundown** video in FSM's email newsletters.

Don't miss it. Sign up today!
www.FineScale.com

Protect Your Investment



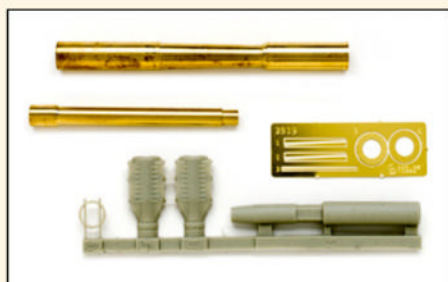
Preserve your library of *FineScale Modeler* magazines with durable hardcover binders.

Item #14006

1 for \$13.95 | 3 for \$38.95
5 for \$59.95

Buy now from your local hobby shop!

Shop at KalmbachHobbyStore.com



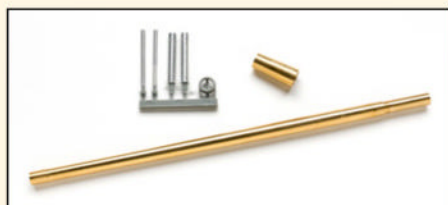
152mm barrel for 2519 (for Trumpeter) from Orange Hobby, No. G35-137-98, \$26.95.



Barrel for M103A1 (for Dragon) from Orange Hobby, No. G35-141-88, \$23.95.



Rheinmetall 120 mm L44 barrel for Meng S-016 (Leopard 2A4) from Orange Hobby, No. G35-146-96, \$26.95.



203mm barrel and hydraulic pressure rod for 257M for Trumpeter No. G35-133-96, \$26.95; **90mm M41 barrel for M48A3** No. G35-130-80, \$21.95; **NSV machine gun barrel universal part** No. G35-128-58, \$9.95. All from Orange Hobby.

1/72 DETAIL SETS



Canadian M4A1 Grizzly "Skink" AA turret for Italeri from Resin2 Detail, No. AR-001, \$12.99. Late-war Canadian Sherman variant. Drop fit for Italeri.

Sprue Brothers Models LLC

Kits Tools Supplies Accessories
Visit Us TODAY For The BEST

- ✓ SELECTION
- ✓ SERVICE
- ✓ SHIPPING

spruebrothers.com

Find us on Facebook

EXPERIENCE THE TRADITION AND PRIDE OF WOODEN BOAT MODELING

Crafted by your hands...you'll enjoy the accuracy, detail, and authenticity of wooden ship model kits. With over 75 ship model kits available, BlueJacket Shipcrafters has something for every modeler from beginner to most advanced. The oldest modeling company in the US, BlueJacket specializes in wooden ship model kits, finished models, model fittings, books, and nautical gifts. Browse our gallery or visit us on the web.

800.448.5567
www.bluejacketinc.com
160 East Main Street, Searsport, ME 04974

BLUEJACKET
SHIPCRAFTERS™

Since 1905

TO ADVERTISE

Call Jim Hagerty
888-558-1544 ext. 549

Great how-to ideas from some of the top modelbuilders.

88 Pages of Time Saving Tips and Techniques for Building All Types of Styrene Plastic Models.

- Scratchbuilding
- Decals - Tools
- Conversions
- Weathering
- Airbrushing
- Adhesives
- Detailing

\$16.95 PLUS \$5.00 S&H

EVERGREEN SCALE MODELS
65 E. Bradrock Dr., Des Plaines, IL 60018
Toll Free: 1-877-376-9099 • www.evergreenscalemodels.com

NEW PRODUCTS

SHIPS

1/35 SCALE KITS



Soviet Navy G-5-class motor torpedo boat from Merit, No. 63503, \$99.99.

1/350 SCALE KITS



Kagero Japanese Navy Destroyer from Tamiya America, No. 78032, \$75. Ship Series No. 321.

Soviet Corvette 874 "Tarantul III" from Orange Hobby, No. N03050, \$45.95. Blue Series.

1/525 SCALE KITS



USS Lexington Blue Ghost aircraft carrier from Lindberg Line, No. HL436/12, \$35.99.

MISCELLANEOUS



The Wizard of Oz - Wicked Witch of the West from Polar Lights, No. POL903/06, \$160. Look for a detailed review in an upcoming issue of FSM.

AUTOS

1/25 SCALE KITS

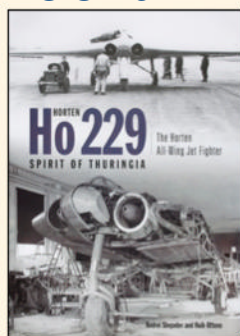


1958 Chevy Impala from AMT, No. AMT931/12, \$23.99. Molded in white.



1971 Dodge Charger RT from AMT, No. AMT945/12, \$22.99. Special Dirty Donny Edition. New Match & Paint Guide.

BOOKSHELF



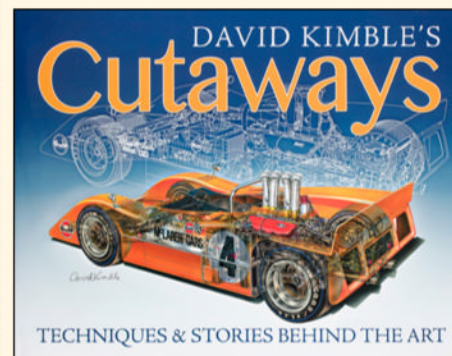
The Horten Ho 229 - Germany WWII Flying Wing Fighter, \$49.95, by Andrei Shepelev and Huib Ottens, hard cover, 128 pages, over 250 black-and-white photos, ISBN: 978-1-903223-66-6. From Specialty Press.



Luftwaffe Eagle - From the Me 109 to the Me 262, \$18.95, by Walter Schuck, soft cover, 260 pages, over 250 black-and-white photos, ISBN: 978-0-85979-186-1. From Specialty Press.

The Douglas B-18 and B-23 - America's Forsaken Warriors, \$39.95, by Dan Hagedorn Sr. and San Hagedorn Jr., soft cover, 260 pages, over 350 black-and-white photos, ISBN: 978-0-85979-178-6. From Specialty Press.

Republic XF-84H Thunderscreech, \$14.95, by Steve Ginter, soft cover, 40 pages, 102 photos and drawings, ISBN: 978-0-9968258-1-8. From Specialty Press.



David Kimble Cutaways - The Techniques and the Stories Behind the Art, \$39.95, by David Kimble, hard cover, 192 pages, 210 color photos and drawings, ISBN: 978-1-61325-173-7. From CarTech Auto Books & Manuals.



1001 Drag Racing Facts: The Golden Age of Top Fuel, Funny Cars, Door Slammers & More, \$24.95, by Doug Boyce, soft cover, 344 pages, 130 black-and-white photos, ISBN: 978-1-61325-191-1. From CarTech Auto Books & Manuals.

ELECTRONIC MEDIA



Worldwide Military No. 5 from Aero Research, No. 1066, \$12.50.

www.FineScale.com

Subscribers have exclusive access to model kit photos not published in the magazine! Simply go to FineScale.com/Reviews.

Manufacturer/Distributor Directory

Aero Research Co.
www.AeroResearchCDs.com

Airfix
253-926-9253
www.airfix.com
www.hornbyamerica.com

CarTech Auto Books & Manuals
800-551-4754
www.carttechbooks.com

Dragon Models USA Inc.
626-968-0322
www.dragonmodelsusa.com

- Aoshima
- Bronco
- Cyber-hobby
- Dragon
- Fine Molds
- Fujimi
- G.W.H.
- Master Box
- ModelCollect
- Orange Hobby
- Platz
- Riich
- Showcase Models Australia
- Takom
- Zvezda
- Concord
- Firefly Books
- Nuts & Bolts Books

Friulmodel
www.friulmodel.com

Hannants
44-1502-517444
www.hannants.co.uk

- Xtradecal
- Xtrakit

Merit International
626-912-2212
www.merit-intl.com

- Merit International
- AFV Club
- Kinetic
- Takom

Pacific Coast Models, Inc.
707-538-4850
www.pacmodels.com

- HK Models
- Takom
- Pacific Coast
- Amusing Hobby
- Asuka
- Ebbro
- Kitty Hawk
- Panda
- Xactscale

Resin2 Detail
201-230-6904
www.resin2detail.com

Revell
847-758-3200
www.revell.com

Roden
www.rodenkits.com

Round 2
574-243-3000
www.round2corp.com

- AMT
- MPC
- Polar Lights
- Lindberg
- Hawk

Scale Aircraft Conversions
214-477-7163
scaleaircraftconversions.com

Specialty Press
651-277-1400
www.specialtypress.com

- Ginter
- Crecy
- Hikoki
- Zenith
- Classic

Squadron Products
877-414-0434
www.squadron.com

- Encore Models
- HobbyBoss
- ICM
- Kitty Hawk
- Meng
- Super Scale International
- Sword
- True Details
- Trumpeter

Triglav Models
www.triglavmodel.si

Stevens International
856-435-1555
www.stevenshobby.com

- Trumpeter
- Meng
- Noys Miniatures

Tamiya America Inc.
949-362-2240
www.tamiyausa.com



ACRYLIC COLORS FOR MODELS AND MINIATURES

Highly pigmented acrylic colors
formulated for models and miniatures.
Indicated for all surfaces.



www.acrylicosvallejo.com



Follow us on:
/vallejocolors



Basics of clothing

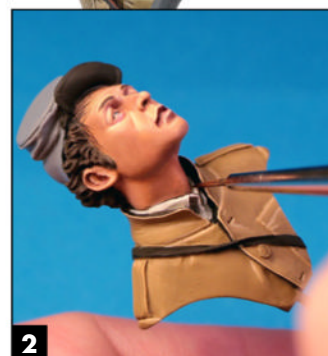


Layering and shading for uniform colors • BY JOE HUDSON

In the January issue, I introduced painting skin tones using an FeR Miniatures 120mm bust of a Confederate soldier. (Note: The manufacturer was misidentified.) Now it's time to finish the soldier by painting his uniform jacket, shirt, and forage cap.



I premixed several colors in preparation for painting the bust's jacket (1:1 desert yellow and burnt umber), undershirt (stone gray), cap (Barley gray), and belt (1:1 mahogany brown and black). After base-coating the sections, I added shadows (stone gray mixed with a little German gray) and highlights (stone gray with a little ivory) to the collar.



Using an ultrafine brush, I added a thin undershirt collar fold along the left side of the neck. This was not sculpted.



I painted a mix of desert yellow and buff to highlight the seams and creases on the jacket (left). Using the side of the brush, I emphasized the highlights along the jacket's flap edge. This will make the jacket pop.



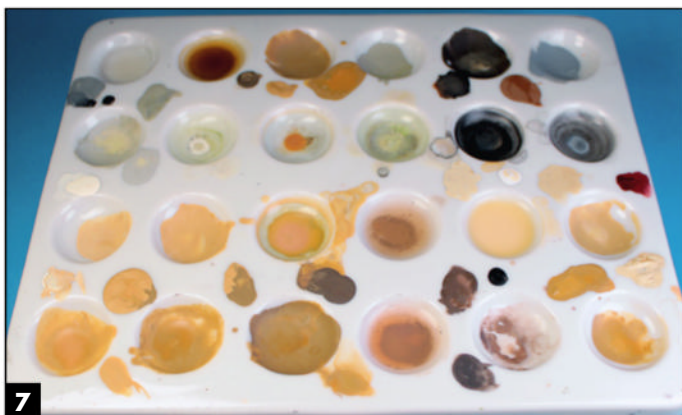
I squirted a little burnt umber into a cup, then heavily thinned it with distilled water. I painted this glaze over all of the jacket to tint the jacket's color and blend the highlights. It gives the uniform a worn, dirty appearance. Keep it thin; you can always add more.



Straight burnt umber added shadows to the jacket's collar (left), epaulettes, and pocket. I also painted the exposed button burnt umber to produce a natural shadow around it when I paint it brass later.



I go back and forth several times to refine the highlights and shadows until I'm happy with the way it looks. These two photos show subtle differences as I progressed.



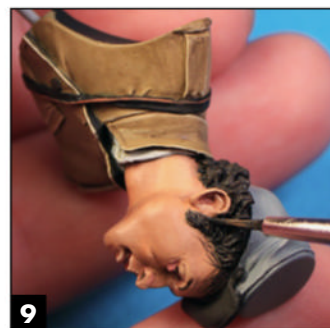
7

To give you some idea of the number of changes I made, here is my palette with all of the mixes I used on the jacket and shirt.



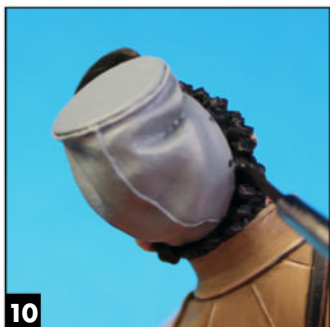
8

I highlighted the shoulder strap with red leather and added shadows with black.



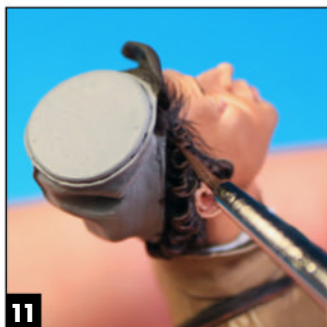
9

Working over the hair painted in the previous step, I added a thin black wash to the underside of the sculpted hair and some of the deeper crevices near the hat brim.



10

For initial highlights, I applied a thin mix of black and red leather to the tops of the hair and sideburns.



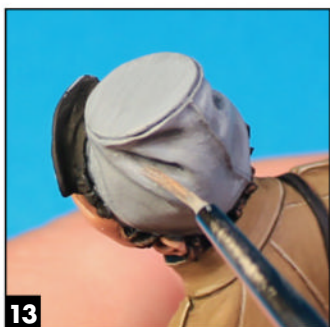
11

I applied a second highlight layer using a mix of black, red leather, and mahogany brown. A mix of mahogany brown and light orange applied to the tips finished it.



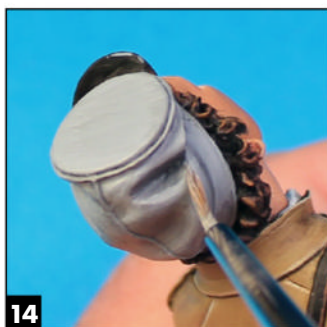
12

I painted shadows under the folds and recesses of the cap with a thin mix of Barley gray (the base color) and black (left). A thinner mix of a slightly lighter shade defined shallower folds and the curve under the back of the head (right).



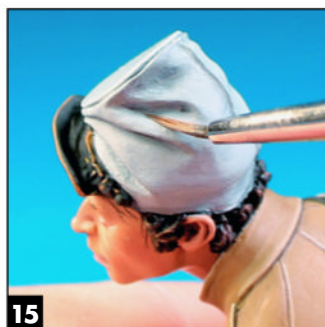
13

Finally, I applied lighter shades to the upper edges. Remember, you want to highlight all of the areas where light would strike the cap ...



14

... such as the section stretched over the back of the head. The strongest highlights define where the light is coming from.



15

A couple layers of pale gray wash blend the highlights and shadows of the cap, softening the contrast for more subtle transitions.



16

I applied a wash of pale gray with a little thin black added to enhance the shadows.



17

For a metallic shine on the buttons of the jacket (left) and cap, I painted them with DecoColor Liquid Gold from a marker, and burnt umber artist's oil for shadows. The final step was a brushed coat of matte medium. **FSM**



Acrylicos Vallejo paints used

70.818 Red Leather
70.846 Mahogany Brown
70.884 Stone Gray
70.907 Pale Grey Blue
70.911 Light Orange
70.918 Ivory
70.941 Burnt Umber

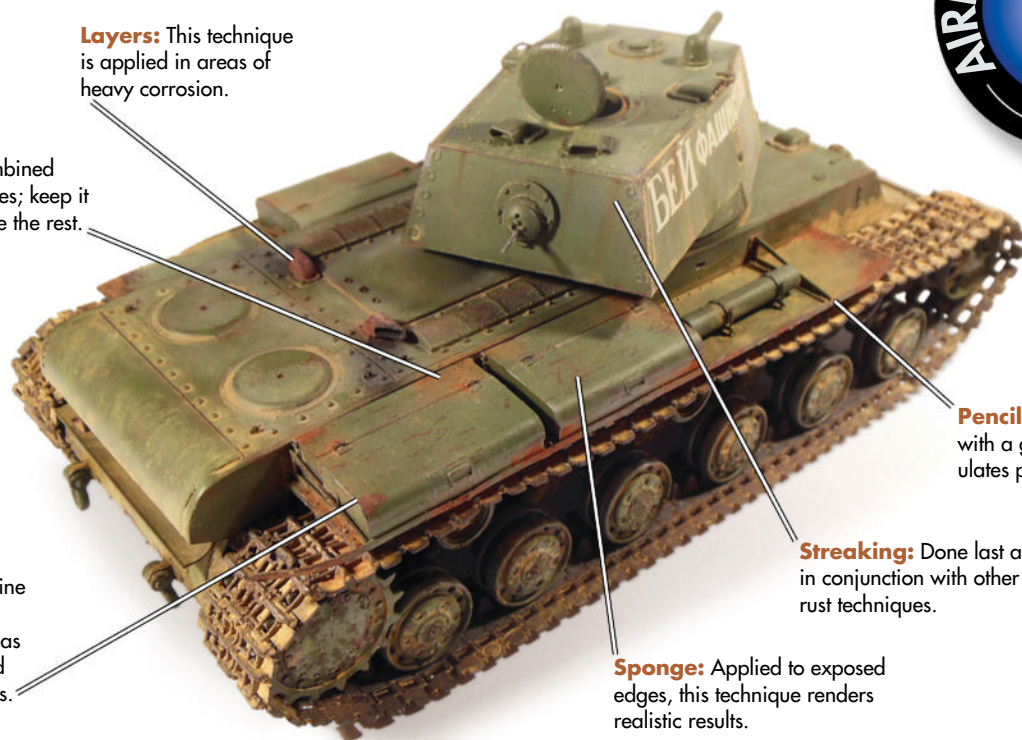
70.950 Black
70.976 Buff
70.977 Desert Yellow
70.986 Deck Tan
70.995 German Gray
71.051 Barley Gray

Next

Belts, straps, and holsters: Joe shows how to paint new leather.

Simple yet effective rust

A survey of methods for modeling corrosion • BY CRISTIAN LUPU



Layers: This technique is applied in areas of heavy corrosion.

Dusting: Best combined with other techniques; keep it subtle to underscore the rest.

Hairspray: Can simulate fine scratches and large rusty areas on and around damaged parts.

Pencil: Rubbing edges with a graphite pencil simulates polished metal.

Streaking: Done last and in conjunction with other rust techniques.

Sponge: Applied to exposed edges, this technique renders realistic results.

Weathering is my favorite part of modeling, the step that makes the difference between a toy and an accurate replica. It seems to me that a lot of modelers avoid this step because they are concerned about how easy it is to ruin their latest masterpiece, how one wrong move with a brush can undo all of the hard work. As difficult as it is to overcome this psychological hurdle, it's really just about controlling a few basic things.

Let's look at one aspect of weathering: rust.



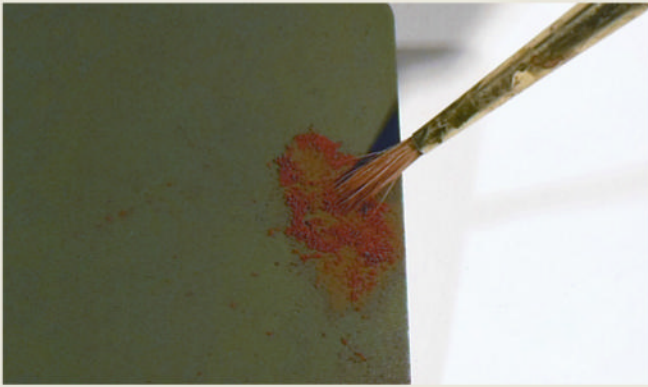
COLOR CHOICE Generally, the more colors you apply, the more realistic the rust. Beware of overdoing it, though! I use three paints for most applications — Revell rust (83), Revell leather brown (84), and Vallejo German red brown primer (70.605).

Over those, I apply pigments such as Vallejo burnt sienna (73.106) to add texture and a realistic, dry look.

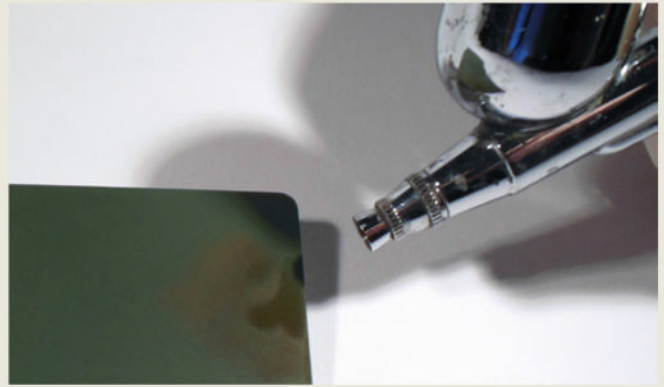
Finally, I use Winsor & Newton artist's oils, specifically burnt sienna, lamp black, and zinc white mixed freehand.

Before we get going, a word of warning: Always protect your lungs and skin with a respirator and gloves when using paints and pigments.

DUSTING



It's easy to dust on rust: Simply apply rust pigments to the model and rub them into the paint with an old, large brush. It's best to do this over flat finishes; the pigment sticks better.

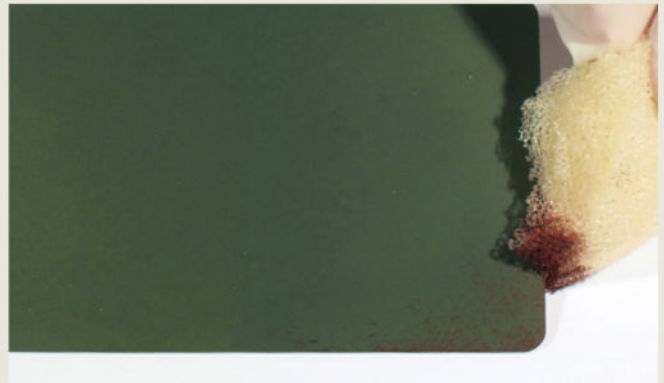


Pigments are easily disturbed, so I hold them in place with an airbrushed mist of pigment fixer, isopropyl alcohol, or clear coat. Keep the pressure low to avoid blowing away too much pigment.

SPONGING



All you need is a piece of sponge or foam rubber, such as that used for packing, but it needs to be relatively coarse so there are spaces between the areas of color. Tear off a piece large enough to hold comfortably.



Dip the sponge in paint, then remove most of the color by rubbing the sponge against paper. Gently touch the model with the sponge to leave random stains. You can increase the pressure or repeat the dabbing. Cover 80-90% of the rusty area with a mid-rust color, then repeat the step with lighter and darker shades.

LAYERING

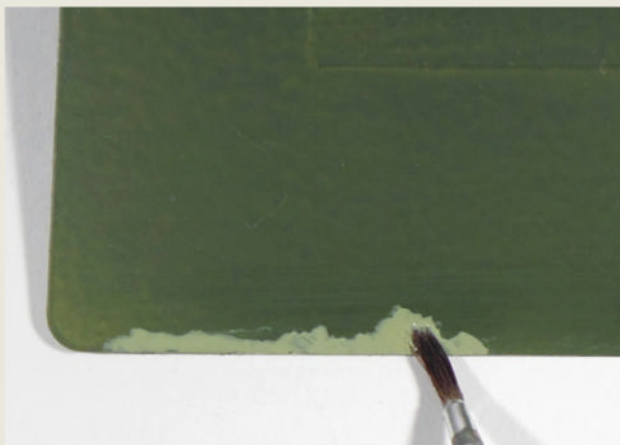


Layering is my favorite technique. I tend to overdo it, but it is great for textured rust on exhausts and mufflers. Start by applying an irregular coat of clear flat over the area. You can paint the spot with rust or brown, but it isn't necessary.

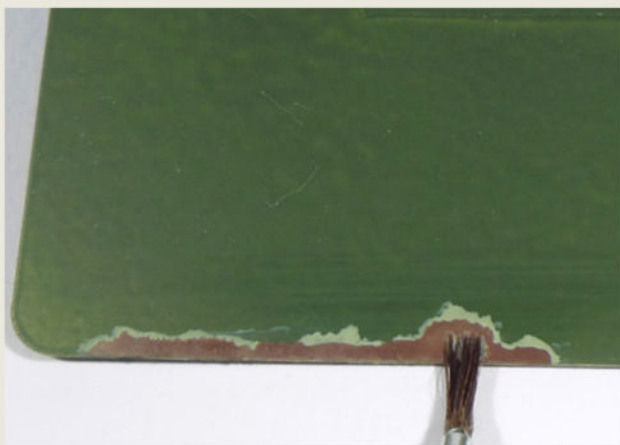


Before the clear coat dries, sprinkle it with rust pigments. Tap the model to knock off any excess pigment, then add clear flat and more pigment. I apply two to five layers of different colors. It's a good idea to mask surrounding surfaces when sprinkling powdered pigments.

THE LIGHTENED BASE-COLOR TECHNIQUE



This technique is perfect for large areas of damaged paint. Mix equal parts of the base color and white (or yellow if the model is green), and brush it on the model. You can also use this color to produce light scratches in the paint that don't go all the way through to the metal.



When that is dry, paint the middle of the section with a rust color. The result is a deep scratch surrounded by less-damaged paint.



When everything is dry, I texture the surface with a stiff brush. Then, dry-brushing or the sponge technique can be used to produce even more variation.

STREAKING



To replicate rain-streaked rust, I start by placing a small blob of burnt sienna oil paint on cardboard to leach away excess oil. Then I add a drop of turpentine to make the paint smoother and easier to work. Now apply a dot or two on the model, preferably close to rust created by one of the other techniques.



Using a brush that is damp, but not wet, with thinner, streak the dots downward in the direction water would flow. The color will gradually fade from darkest near the original dot to next to nothing near the bottom.



The final effect is thin, uneven streaks. You can vary the effect with different shades and additional applications. Make sure you apply oils over acrylics rather than enamels — the turpentine can affect solvent-based paints.

THE HAIRSPRAY TECHNIQUE



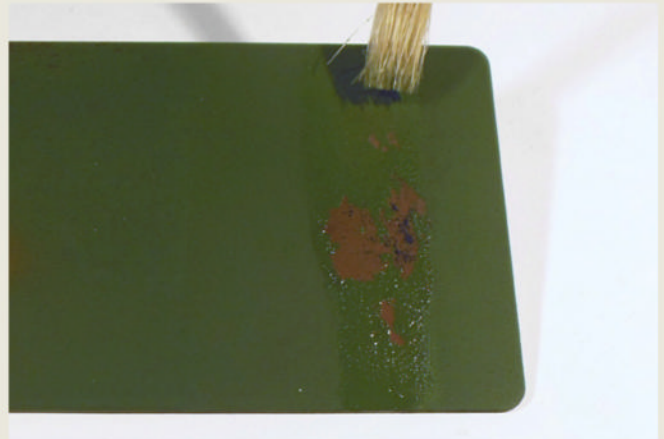
The hairspray technique requires planning. I start with a base coat of dark rust, followed by random patches of other shades. Once that's dry, I spray several thin layers of hairspray decanted to my airbrush. The hairspray must be even and neither too thin nor too thick. Too thin and it won't release the overlying paint; too thick and it can cause large sections of paint to lift.



Next, I spray the model with an overall coat of the base camouflage color using acrylic paint. When the paint is touch-dry, I apply a little lukewarm water and let it sit for 15-20 seconds.



Now the paint can be easily chipped and removed with a stiff paintbrush, toothpick, or old toothbrush. This technique can also be applied between the layers of multicolored camouflage, letting one color shine through the scratches applied to the one above it.



Be careful not to overdo it and remove more paint than you intend. Let the model dry completely — premature handling can slough more paint off — then seal the "damage" with clear coat.

PAINTBRUSHES & TOOTHPICKS

Dip a fine brush or toothpick in rust paint and, after removing any blobs of color, drag the tip across the surface or along an edge to "scratch" the paint. I prefer the toothpick; its rigidity gives me more control.

PENCILS

Rust starts because protective paint has been removed, exposing bare metal. So it seems only natural that there should be some polished metallic sheen around high-traffic spots. It's easy to add those by rubbing the areas with a graphite pencil. Bingo! Instant shiny metal, and it's easy to control.

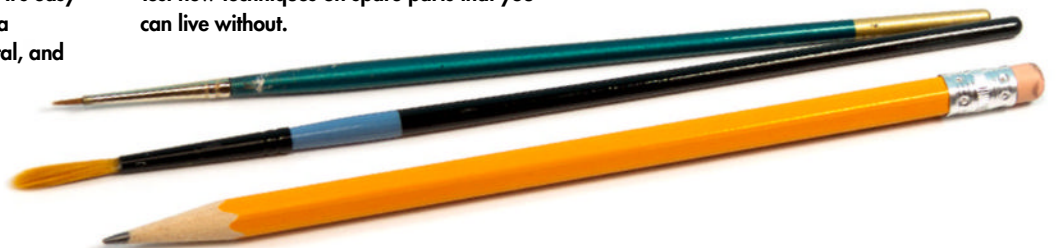
CONCLUSION

As you can see, there are no big secrets to achieving realistic rust effects. It all boils down to a bit of practice and a small dose of insanity to do this to your neatly finished models.

Here are a few key things to remember:

- Beware of getting carried away and overdoing things.
- Test new techniques on spare parts that you can live without.

- Use a variety of different rust colors.
- Make use of pigments to achieve a more-natural look of accumulated rust.
- Don't be afraid to use what you just learned.
- Most importantly, have fun and don't take things too seriously. **FSM**





Eduard's kit provides 12 variations on a theme. Ricardo exercises his option with basic techniques to model a commemorative MiG-21.

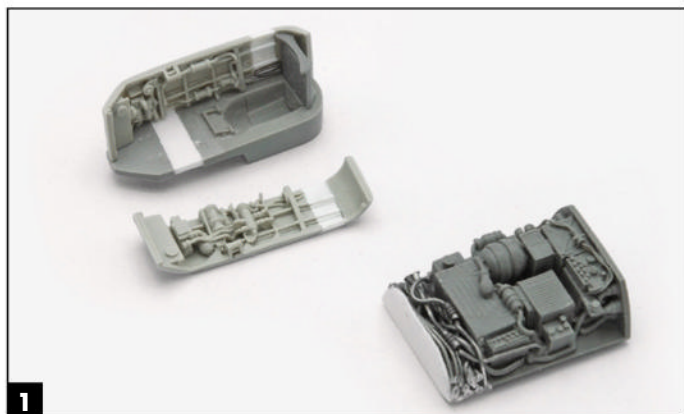
Czech it out!

Building Eduard's multiple-choice MiG-21MF • BY RICARDO DACOBA

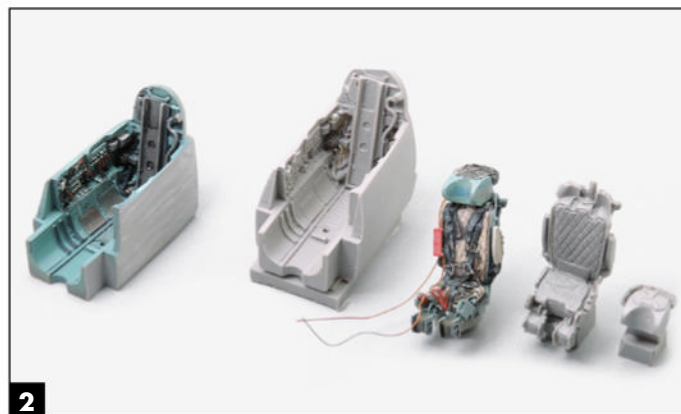
Eduard's "MiG-21MF in Czechoslovak service" (kit 1158) provides schemes and decals for 12 different aircraft — but one was enough for Ricardo to turn out a stunning model.

According to the Eduard instruction sheet, a month after MiG-21MF No. 965212 was built it was handed over to the Czechoslo-

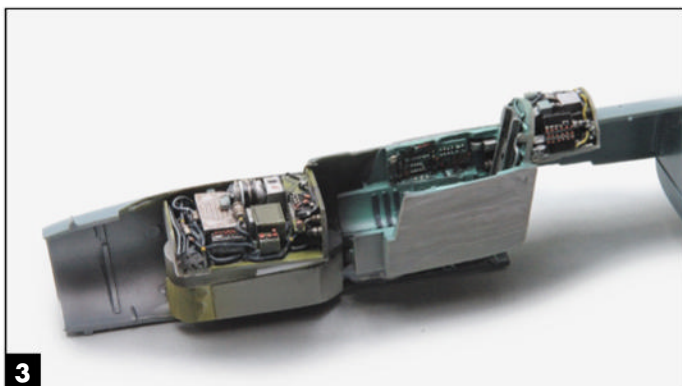
vakian air force, going into service on Feb. 4, 1972, with the 4th slp (fighter regiment) at Pardubice air base. In May 1991, the aircraft was reassigned to the 11th slp at Žatec. The following October, the plane was painted to mark the 40th anniversary of the 11th — and that is how it looks today, displayed at Čáslav air base in the middle of Bohemia, about an hour's drive from Prague.



Ricardo substituted resin replacements from Aires for better detail in the nose wheel well and cockpit. He used sheet styrene (top, center) to extend the pieces about 4mm to fit their openings.



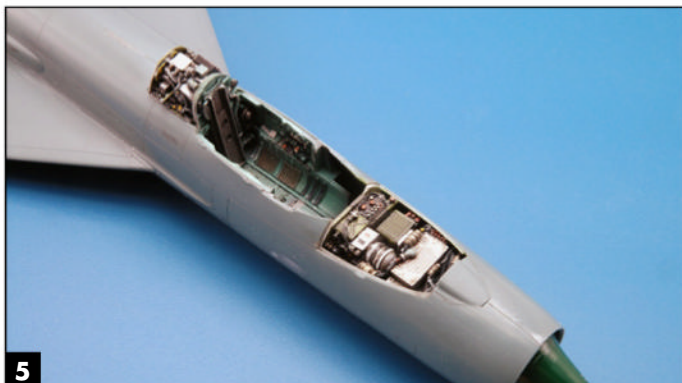
"The Eduard cockpit is not bad," Ricardo says, "but the Aires cockpit (left) has better relief and allows more freedom in painting." He used Testors Model Master and Humbrol enamels.



3 Slight modifications and repeated test-fittings allow Ricardo to install the Aires resin parts in the Eduard fuselage.



4 He was well satisfied with what the kit supplied for an engine, simply painting it and putting it in place.



5 More test-fitting and Ricardo was able to close the fuselage and mount the wings.



6 He filled flaws with putty and smoothed them by wet-sanding with 600-grit wet/dry sandpaper.



7 After sanding, Ricardo chucked a cloth wheel in his motor tool and polished the plastic to a glossy finish.



8 Ricardo used Luftwaffe silver (RLM 01, Xtracolor X-216) as a base coat.



9 Following photographic references, he varied the metal panels with a light dusting of Tamiya smoke.



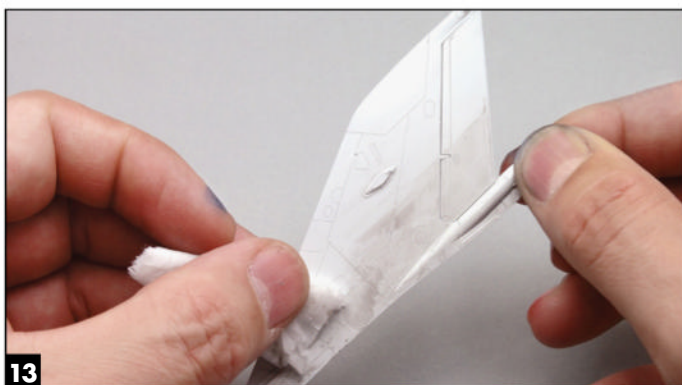
10 Peeling back the low-tack clear tape revealed well-defined panels.



11 Happy with the fit of the vertical stabilizer on the fuselage, Ricardo decided to paint it separately and glue it on near the end. "It greatly simplifies the modeling," he says. He applied a base coat of Tamiya white.



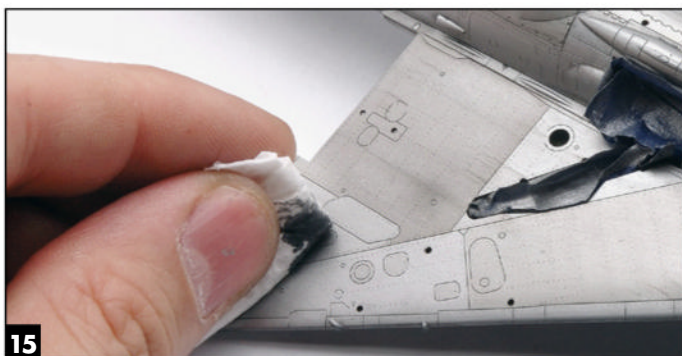
12 For a wash, Ricardo uses a flat brush to apply a dark-brown mixture of watercolor, water, and acrylics retarder, leaving it a few minutes to dry ...



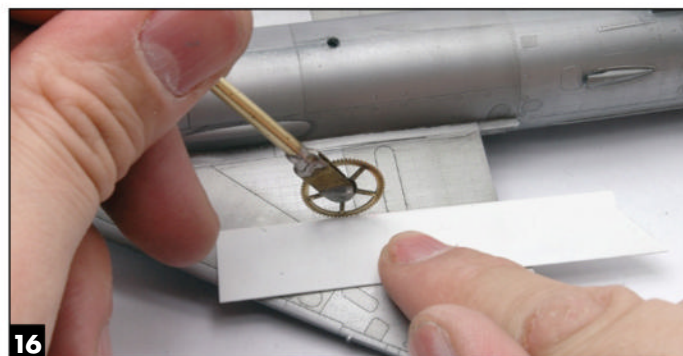
13 ... then wiping it away while leaving color in the panel lines. "It is very important to let the white paint dry a couple of days to avoid unpleasant surprises," he says.



14 Ricardo gives the underside a similar treatment to call out the panels there.



15 A moist tissue removes the wash. Ricardo says, "It is important that the entire removal process is carried out following the direction of the airflow."



16 Using a homemade ponce wheel, Ricardo subtly introduces rivets where he wants them.



17 He used Faber-Castell Dürer artist's pencils to draw in different shades of brown, simulating dirt and leaking hydraulic fluid. "This effect must be moderate, since it is an exhibition piece," he says.

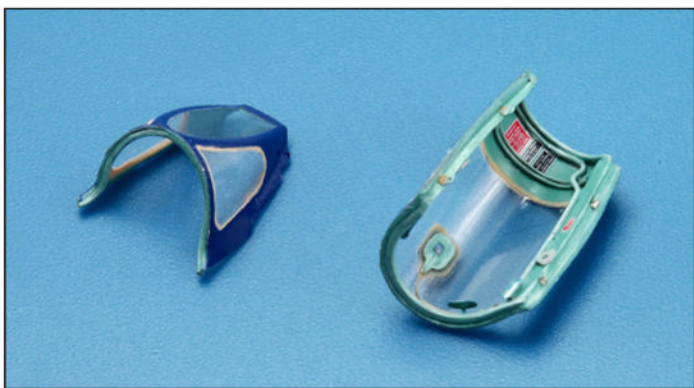


18 After applying a clear gloss coat, Ricardo was ready to apply the dozens and dozens of stencil decals.



19

Ricardo went with a vacuum-formed canopy. He says, "Though it is very laborious to separate and adjust to the kit, the sharpness and thinness of acetate justifies the extra work." Added details and painting bear him out.

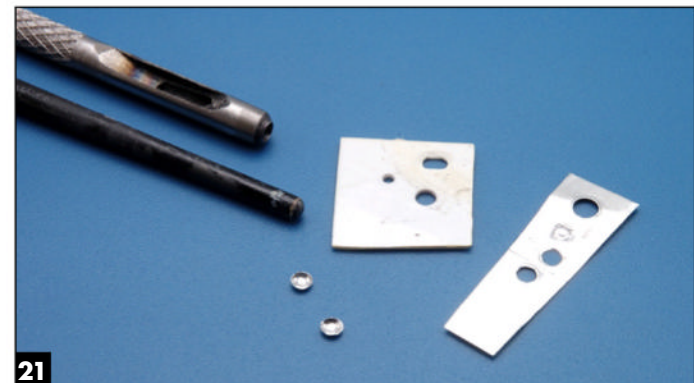


20



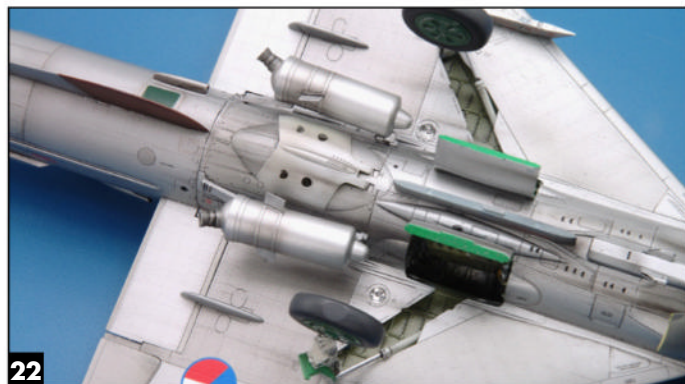
21

On the other hand, Ricardo thought the resin UB-16 launchers supplied in the kit were fine just the way they were.



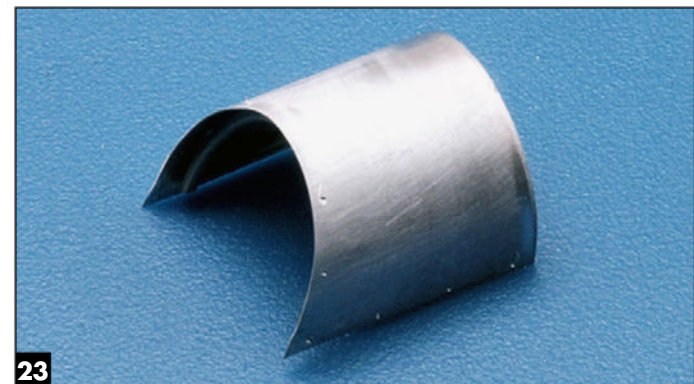
22

Landing lights were lined with aluminum foil. Ricardo punched them out and formed them with the butt of a paintbrush handle.



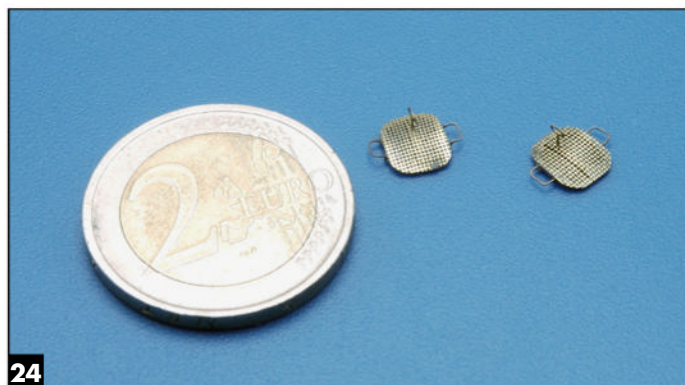
23

After the lights were glued in place, filling them with clear epoxy resin simulated glass. The RATO units were given a slightly different finish to distinguish them.



24

The cover of the avionics bay is made from aluminum sheet.



25

Fine-mesh brass and copper wires were sufficient to reproduce protective covers for the intakes.



26

Ricardo didn't do anything revolutionary to get such a great-looking plane — just modeling and painting fundamentals and skillful execution. **FSM**

1/35 Scale

Winterizing Tamiya's SU-122

Step-by-step camouflage for a Soviet assault gun • BY STEPHEN JUNG

In response to Germany's powerful Sturmgeschütz III assault gun, the Soviet army developed a series of self-propelled guns known as *Samokhodnaya Ustanovka* (SU) in Russian. One of these, the SU-122, mounted a 122mm M-30 howitzer in a casemate mounted on a T-34 hull. More than 1,100 were built, and the capable vehicle served through the end of World War II as infantry support.

Tamiya's 1976 release remains the only 1/35 scale SU-122, so I built that kit. I wanted to focus on painting and weathering, so I kept the hatches closed and minimized modifications, **1**. Before painting, I installed the running gear and tracks.

Initial painting

I sprayed the model with a base coat of Tamiya deep green, **2**.

Using a 3:7 mix of Tamiya flat white and thinner, I airbrushed the winter camo over the green, **3**. Refer to photos if you have them and add more paint in areas the crew or soldiers would not have routinely walked over.

Don't be afraid to hit those unworn areas several times, because the starkness of the white will be toned down in the next step. Also, don't worry if the paint runs; it would likely have done so on the real vehicle, **4**.

To emphasize the wear, I dry-brushed horizontal surfaces with the base color, **5**.

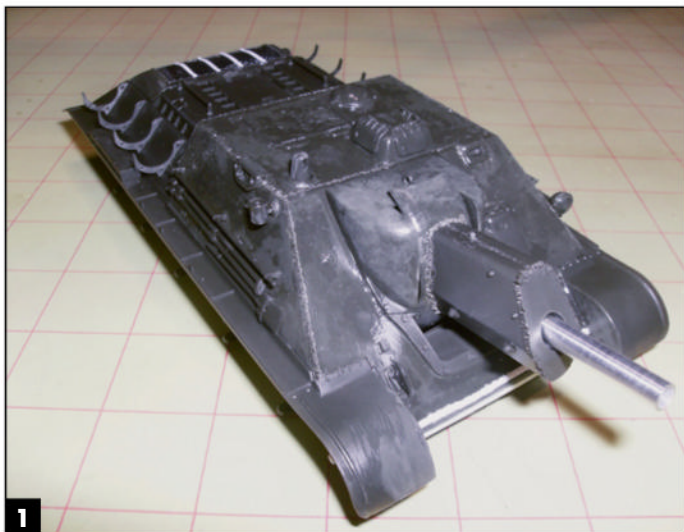
Let the weathering begin

To simulate dings from flying rocks, shrapnel, and other moving things, I applied dots of thin dark green. I also added scratches from trees, boots, and chains by lightly stroking the brush across the surface, **6**. The stark contrast will be subdued by subsequent weathering.

I dabbed a little lightened base green onto the horizontal surfaces that showed most prominently to depict faded paint under the whitewash. Then I applied a little Tamiya metallic gray in areas prone to heavy wear, and I strategically placed scratches.

After a heavy layer of Testors Dullcote, I applied a couple of washes, **7**.





1 To enhance the aging Tamiya kit, I replaced the two-part gun with a turned-metal barrel, enhanced weld seams between armor plates, and built a new engine screen from wire mesh and strip styrene.



2 The odd patches on the casemate are Pledge FloorCare Multi-Surface Finish that I brushed on in preparation for decals before I discovered the SU-122 that I was modeling had numbers painted over the white camouflage.



3 Setting my single-action airbrush to a fine line gave me maximum control over the white paint. I focused it on panel centers.



4 Keeping the white uneven replicates wear and tear. Finally, I misted white over the model to ensure all of the green was at least partially obscured.

Whitewash

I figured that spray guns would have been hard to come by on the front lines, so application of winter camouflage would have been by hand and pretty crude. To mimic that, I thinned Tamiya flat white so it brushed easily but wasn't runny. Using a fine brush, I painted the areas that had been airbrushed white, **8**. You don't want to cover the whole tank evenly. Instead, hit some areas two or three times. It's the contrast of the base color with the whitewash and the varying thickness that will help form the contrast you'll need in the steps to follow, **9**.

Oil washes

Choosing burnt umber because it complements green, I applied two artist's-oil

washes — 2 parts paint to 8 parts thinner — to the tank, dabbing rather than brushing it on, **10**. These were liberal applications with frequent stops to load up the brush.

I added a wash of raw umber, generous to the point that the color on horizontal surfaces was practically running down the sides.

Finally, I applied a slightly thicker black wash around hatches and moving parts where grease and oil accumulate.

Accenting the color

Study the model — good lighting and magnification such as an OptiVisor are your friends — to find places of vibrant colors and contrast. The variations, sometimes called accents, may be subtle, but

they'll be there. On the SU-122, the most obvious spots were where dark green and bright white were adjacent. Take note of the most obvious spots; I wrote them down to refer to later.

Dilute the base color 50% with thinner, then whip out your best fine paintbrush and a little clean thinner. Keep your OptiVisor on, pick a side to start, and stipple dots of colors no bigger than $\frac{1}{16}$ " over and around the accent. Don't overdo it; next to each other, these spots should look like clouds, **11**. After about a dozen dots, let the paint dry briefly. The paint should appear to have no body but the chroma (intensity of the color) will be strong and draw the eye. Done right, these dots will be processed in a viewer's mind as a whole.

You can even lighten the base color a bit



5

I started dry-brushing green with an old, stiff brush in a circular motion over the areas with less white. I also hit the spots where the crew would routinely place their feet and hands, such as hatches and fenders.



6

Add chips around hatches and other moving parts, and beat up the idlers, sprockets, and road wheels. Remember, they rotate, so move the brush around the surface.



7

Using washes of 2 parts raw umber artist's oils and 8 parts mineral spirits, I blended the white and green and dulled the contrast slightly.



8

To replicate hand-painted winter camouflage, keep the pattern random and vary the brush strokes — Xs, left to right, up and down. This is one place it pays to be a little sloppy.

more and further enhance the effect with more color dots.

In the areas of most intense white on vertical surfaces, I added 8-10 dots of straight white oil paint working across a vertical surface. The line of dots should not be exactly straight. Then, I dropped down a pinch and added another line under it, and so on, until I covered about a 2" square.

After cleaning the brush, I dipped it in clean thinner, blotted away the excess, and pulled the white dots down the surface. Work each dot until it is flush with the surface. Vary the length of the pull, and if the surface is bisected by things like tools and grab handles be sure to pull the dots longer to juxtapose the streak with the horizontal elements. The density of the streaks should

vary, revealing more or less of the underlying color. At the top of the brightest streaks add a small — and I mean *small* — dot of fresh white paint and don't touch it.

Repeat this process with denser patches of white next to green accents, except you don't need to run the dots horizontally. Instead, follow the line of contrast.

Don't try to do this all in one session, **12.**

For horizontal surfaces, modify the technique by thinning the white paint slightly and working the dots in small circles rather than streaks. You want to feather the edges.

Add a little rust

The earlier oil washes left some rusty

streaks on vertical plates. Find the densest areas of color among those streaks to accent. I added tiny dots of straight burnt umber oil paint to those spots and dragged them down the surface with a thinner-damp brush. If rust streaks occur next to green and white accents, definitely enhance them. You will achieve the highest chroma of white, green, and rust next to each other.

Using the same method, I added rust streaks where parts were welded to the sides of the self-propelled gun, **13.**

Rust areas on the horizontal surfaces matched spots where the earlier washes pooled. You may want to add more; think about the areas where water or snow would collect and start corrosion. Letting the spots dry can give rust added dimension.



9

I focused the white brush strokes on the middle of each panel or section, especially in areas that wouldn't be heavily worn.



10

Rather than accenting detail — later pinwashes will do that — overall washes reduce the brightness of the underlying colors and blend the layers.



11

More is not better with accents. Too much and the model will be cartoonish. If the model looks good to the naked eye, stop. If you aren't sure, don't add any more color until after the next step.



12

Rather than accenting the entire model, hit a few spots on a side, then step back and check your work. If the contrast is obvious but not overpowering, it's done on that side. Otherwise, add a little more and review again.

Old oil and grease

Dry-brush all of the horizontal surfaces with raw umber artist's oils. When I say dry-brush, I mean *dry* — as in Sahara, Mojave, or Gobi dry. The pigment in oil paint is dense, making the color intense, so less is more. I swipe the brush on scrap paper until the barest trace of paint comes off, then swipe it a couple more times.

Starting in an area of heavy wear — next to a hatch for example — swirl the brush against the surface. Did the bristles make a dry, swishing sound? If not, wipe the brush on paper a couple more times.

Once the brush is leaving just a trace of paint, work around the paths of travel in a swirling motion, **14**. This step takes time and patience, so keep the coffee out of

reach if it makes you hyper, or keep it handy if you started this step late at night.

Fresh oil and grease

I mixed 4 parts raw umber and 1 part black artist's oil, then thinned it at a ratio of 3:7 paint to mineral spirits. To a small amount of the paint mix I added 3-4 drops of Grumbacher artist's oil medium gloss varnish. This mixture works best when it has the same consistency as automotive motor oil.

I liberally applied this thick wash to the engine hatches, letting it settle around edges and streaking it down adjoining hull sides in a couple of places.

For oil stains, I dabbed small spots onto flat surfaces. It should disperse in a circle. If

it spreads too far, let the mix thicken and reapply, **15**.

Let the mix thicken overnight and then "lubricate" hinges on hatches and lids. Really goop it onto the engine compartment covers' hinges. I also added some to the wheel lug nuts. The artist gloss varnish gives these deposits a slight sheen.

Burnt umber pinwashes deepened the shadows at blots and connection points, **16**.

Exhaust pipes

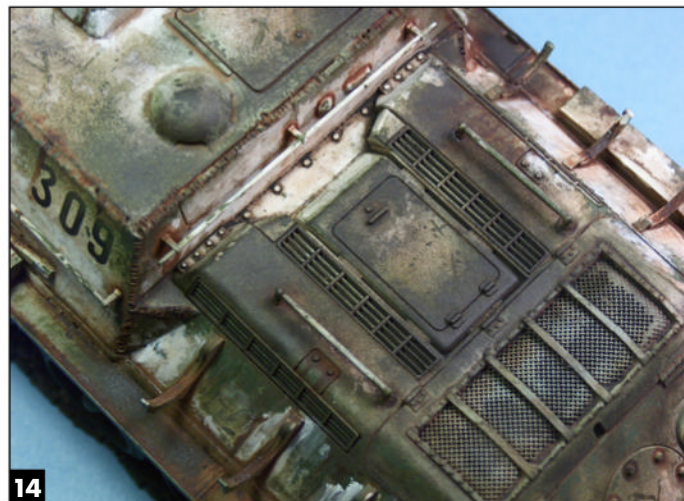
I painted the exhausts with a thick layer of straight burnt umber oil, then textured them with a little thinner and a brush.

Once the oils were dry, I applied powdered brown and orange pastel chalks, **17**.



13

I dabbed burnt umber artist's oils under a few parts and streaked it down the surface with a thinner-damp brush. The enhanced weld seams, the nose, hatches, and a few bolts also received a little rust.



14

The dry-brushed brown paint represents oil transferred from the crew's boots and hands during maintenance. The light, oily sheen does wonders for bringing the model to life.



15

You can see fresh oil on the engine cover. Vary the location and add smaller drips next to others to mimic a dripping oil can and how it changes as the person carrying it moves.



16

Using equal parts burnt umber artist's oil and thinner, I enhanced bolts and connections with a pinwash. On the horizontal surfaces, I exaggerated this wash in comparison to a summer tank; the snow and temperature changes will accelerate corrosion.

Aim a large, soft brush heavily loaded with black pastels straight at the end of the pipe and hit it square on — don't brush and don't smear. I added a little soot to the hull below the pipe openings.

Get the lead out

Pencil graphite adds a lot of realism, but it's easy to overdo. The goal is to depict constant wear that exposes metal and prevents rust from forming. Focus on the corners and edges adjacent to the areas dry-brushed with raw umber earlier.

Run the side (not the point) of an 8B pencil along edges. I like to work from a corner outward, gradually decreasing the pressure away from the corner. If you see graphite flakes, you're pressing too hard.

Apply several strokes, varying the angle of the pencil for each stroke. There should be a nice sheen and contrast with the dry-brushed areas.

For wider applications, such as the case-mate top, I angled the pencil so the length of the exposed lead met the surface, **18**.

Dirt and mud

I weathered the road wheels, idlers, and drive sprockets with Mig Productions pigments mixed with mineral spirits so they are thin enough to paint but won't run. Vary the amount from wheel to wheel, leaving some white camouflage exposed, **19**.

I painted the tracks with the same mix. I wanted to simulate a tank that had been through mud and water.

Check the work after the pigments dry and add more in some spots for variety. More pigment in the mix produces clumps.

A thin plaster mix added mud under the vehicle; I airbrushed brown to match the Mig pigments on the running gear. The sloppier, the better for the plaster mud layer. As it dried, I scratched and gouged the plaster to show the tank's passage over rocks and branches, **20**.

Adding Woodland Scenics snow to the running gear reinforced the seasonal camouflage, **21**. I used the same stuff on a base painted white and textured with gravel, **22**.

After attaching the model to the base, I added the antenna in preparation for the figures. A few clumps of pigment mud finished the tracks. **FSM**



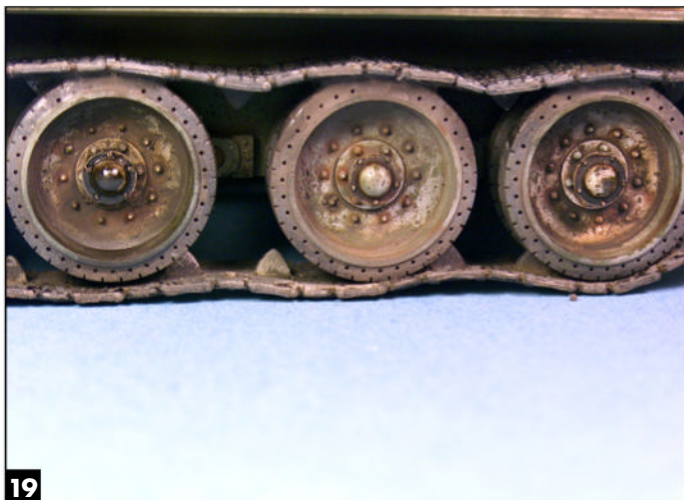
17

Starting with the darkest shade and working progressively lighter, I applied pastels to the exhausts with an old, ragged brush. Use light strokes; you don't want to brush off the previous colors.



18

Applying very light pressure and starting in the corner, I moved the pencil in a small, circular motion working outward. You can blend the graphite with a cotton swab.



19

Varying the weathering from one wheel to the next adds interest. I like to show one wheel with a lot of white camo and next one with more base color. The mud layer should be more consistent but still show a little disparity.



20

Using Woodland Scenics plaster, I added more water than recommended on the box to make it easier to spread. It should be about the consistency of grits. Smear it on like you're making a peanut butter and jelly sandwich — the sloppier the better.



21

Since my scene was of a just-stopped SU-122, I added fresh snow to the tracks. Woodland Scenics provided the snow; Mig pigment, the dirt clods kicked up by the tank.



22

Tape masks the track ruts on the base prior to adding a layer of snow. Otherwise, the heavy vehicle may appear to be traveling on, rather than in, the soft surface.

READER GALLERY



▲ **BRAD SHINN**
HATFIELD, PENNSYLVANIA

Livery from Draw Decal graces this China Airlines Boeing 747-400. Brad built Hasegawa's 1/200 scale kit.

► **JOSE SANCHEZ**
ANGONO, RIZAL, PHILIPPINES

Jose built Dragon's 1/35 scale King Tiger (with Porsche turret) and says he had a hard time keeping the Eduard photo-etched Zimmerit on the model. "Every 6 months or so something would pop off and I had to reglue it. I found only Loctite super glue gel worked reliably, so I'm not doing that again!" He posed the big cat with Easy Model's 1/72 scale counterpart. "I liked the theme of a parent protecting its cub," he says.



◀ **MIKE WODKA**
ANN ARBOR, MICHIGAN

Using a Revival 1/20 scale metal kit, Mike modeled the 1937 Auto Union 16-cylinder *Stromlinie* (Streamliner) Type C race car. Mike says he wired the engine, added all the plumbing, and fabricated a gas tank. However, he says the biggest challenge was to fabricate the framing and duct work and attach it to the chassis.





▲ **NEALE O'LOUGHLIN**
LEOPOLD, VICTORIA, AUSTRALIA

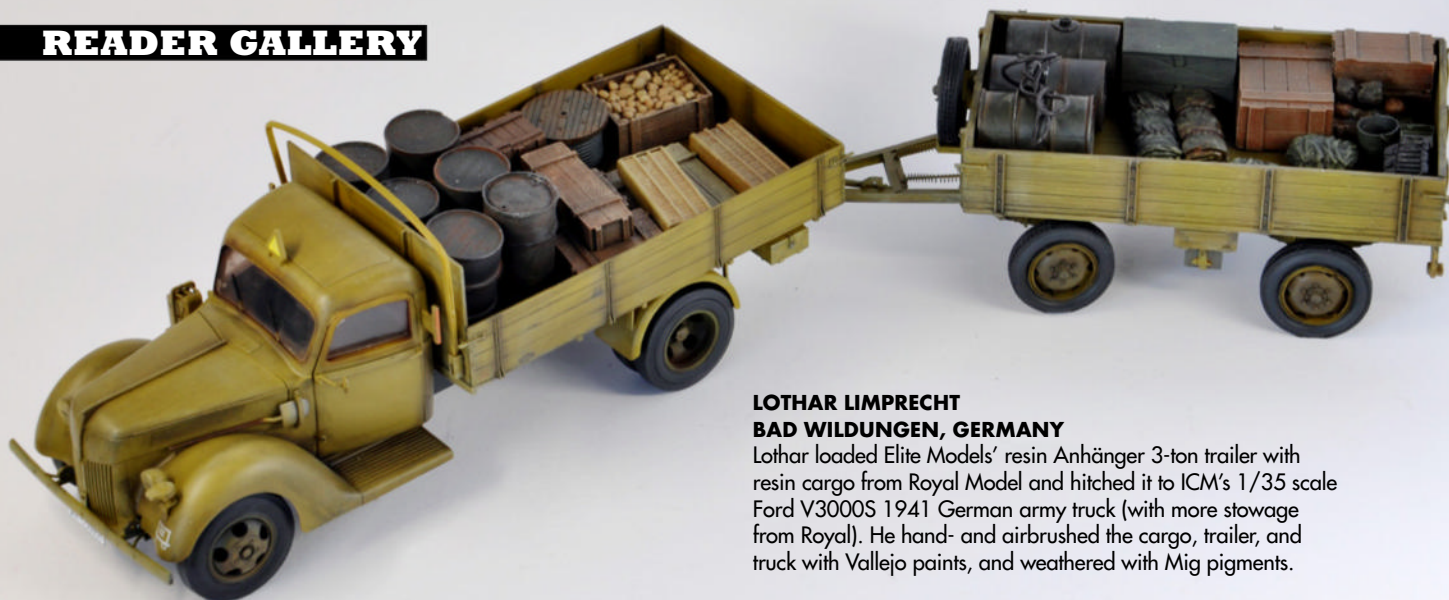
Feeding his fascination with Japanese motorcycles, Neale is building a series of Repsol Honda motorcycles. This Tamiya 1/12 scale NSR 250 Repsol is airbrushed with Zero paints (acrylic solvent-based stuff) and decanted Tamiya spray-can colors. The Carlos Cardús markings are from Shunko.

▼ **WAYNE DIPPOLD**
CLARENCE, NEW YORK

Wayne says, "This Tamiya 1/32 scale Mustang was built from the box as an early D model without the tail fillet. The kit's decals were a challenge, but everything worked out in the end."



READER GALLERY



LOTHAR LIMPRECHT BAD WILDUNGEN, GERMANY

Lothar loaded Elite Models' resin Anhänger 3-ton trailer with resin cargo from Royal Model and hitched it to ICM's 1/35 scale Ford V3000S 1941 German army truck (with more stowage from Royal). He hand- and airbrushed the cargo, trailer, and truck with Vallejo paints, and weathered with Mig pigments.



◀ ALLAN AGATI MANILA, PHILIPPINES

"The model represents a Sokol helicopter of the Philippine air force 205th Wing," Allan says of his AJ Model 1/72 scale PZL W-3A. He sanded the exterior smooth and scribed new panel lines; inside, everything is redone, including the seats and instrument panels. "Also new are the gear struts, tail rotor, main rotor hub, step boards, elevators, engine exhausts, door guns, and gun mounts," he says. And he designed and printed his own decals.

▶ JEREMIAS LUCHINA YERBA BUENA, TUCUMAN, ARGENTINA

"This was my first attempt at metal foil," says Jeremias. "I used kitchen aluminum foil to achieve the natural metal on this Sabre, which represents a plane from the aerobatic squadron 'Cruz del Sur' of the Argentine air force. I also used a CMK resin cockpit and gun bay, and homemade as well as Aerocalcas Argentinas decals." He credits master modeler, FSM author, and countryman Ricardo Dacoba for information and tips on building Hasegawa's 1/48 scale kit to model an F-86F-40.





▲ **JOAQUIN HERNANDO PACHON ARBELAEZ**

CALI, VALLE DEL CAUCA, COLOMBIA

There has been some discussion among *FSM* readers concerning the place of photo editing software in model photography. This photo montage by Joaquin should stimulate discussion; although he was light on other details, he did tell us he built the Pegasus 1/32 scale Alpha Centauri UFO and figure.

SEND US YOUR PICTURES!

Shouldn't your model be in Reader Gallery? *FineScale Modeler* is always accepting new material from around the world.

Upload high-resolution digital images (preferably unedited, RAW format) with complete captions at www.Contribute.Kalmbach.com, or send prints or CD-ROMs to *FineScale Modeler*, Reader Gallery, 21027 Crossroads Circle, P.O. Box 1612, Waukesha, WI 53187-1612.

Be sure to tell us the kit manufacturer, model, scale, modifications, paint and finishes used, and reason for choosing the model, along with your name and address. We look forward to seeing your work!



▲ **DAVID PRICE**
MALVERN EAST, VICTORIA, AUSTRALIA

After a 45-year modeling hiatus, David is rightfully proud of his weathering with artist's oil washes and various powders. He loaded an Italeri 1/35 scale CMP Blitz truck with a Crow River two-drum winch, tying it down with chains from Tank Workshop. The fuel barrels are from Tamiya. He designed the decals in Adobe Illustrator and had them printed by Custom Hobby Decals in Sydney. He says, "The business name on the door is that of a friend who thought for a while that his long-suffering wife did not know about his recent acquisition of a Chevy Blitz."

Search and rescue a UF-1 ALBATROSS

Going big in a small scale for a colorful bird • BY FRANK CUDEN



I might be running out of space in my display cabinet, but not because of this model. Amodel's 1/144 scale UF-1 Albatross has just a 6" wingspan, but you can put plenty of modeling into it.

The longer you model, the more models you have — and, barring new acquisitions, the less shelf space you have. But before I purchase another display cabinet, I have a little room left for some smaller models — and that is one of the reasons I picked out this 1/144 scale Amodel Albatross. With only a 6" wingspan, the model would easily fit in one of my remaining spaces — and, besides being a nice kit, Amodel's early variant, the UF-1, had an even shorter tail and smaller wingspan. I was ready to go.

A short inside story

I got ahead of myself and painted the insides interior green before I found that dark gull gray was more prevalent, **1**. I used the kit's instrument panel, center console, control yokes, floor, rear bulkhead, and seats, but I added headrests as well as a few goodies on the cockpit walls and floor. Counterweights of buckshot, super glued into available spaces, ensured the model would not become a tail-sitter. A little detail painting completed the cockpit.

Although the fit of some of the pieces

(especially the cowl, top and bottom) left a bit to be desired, **2**, I did like the white plastic — easier to work with than dark-colored moldings. I used Squadron White Putty to fill the gaps.

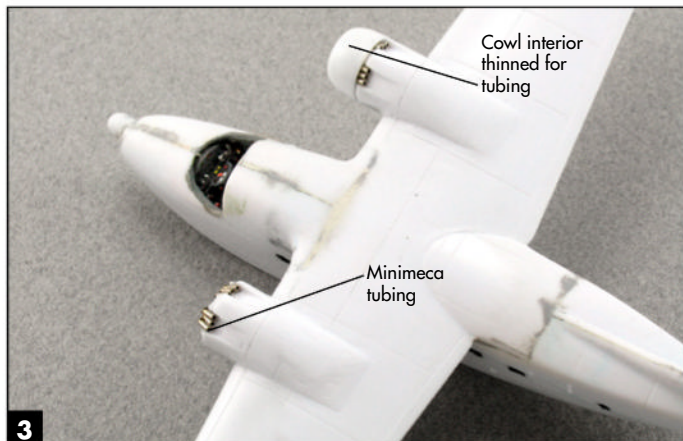
It didn't take long to mate the one-piece wing with the top of the fuselage. Repeated filling and sanding finally made it presentable, **3**. The kit offers tiny, molded representations of exhaust pipes, with three provided for each little mounting plate. However, rather than trying to drill out the molded pipes, I used Minimeca tubing.



For interior paint work, I like hand-brushing acrylics. They are thicker than enamels and/or lacquers and cover in one coat. So I keep those on hand as well as enamels: Humbrol, Floquil, Testors Model Master, a few errant bottles of AeroMaster, and even a few older Pactra bottles.



The fits weren't great, but I liked working with the white plastic. Squadron's white putty filled the gaps and disappeared under paint.



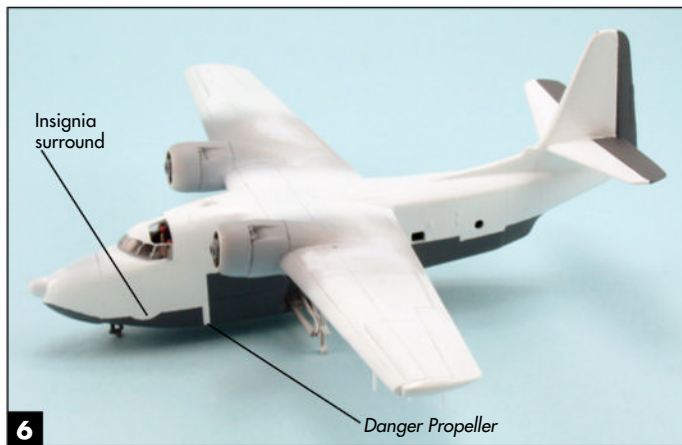
It wasn't hard to smooth out the wing-fuselage join, which was easy to reach with progressively finer grits of sandpaper. Minimeca tubing replaces the kit parts for exhaust pipes. I thinned the cowls on the inside to improve their fit over the tubing.



Joints at the stabilizers, wings, engines, and canopy have been filled, sanded smooth, and primed. Additional scribing restored panel lines lost to sanding. The canopy is a vacuum-formed replacement.



First comes Testors white enamel; I like it because it doesn't yellow. I airbrushed it on everything that would be white or fluorescent red, as the latter greatly benefits from a white undercoat.



Figuring out the correct surround for the national insignia and propeller warning stripe was a fun challenge. Take your time masking so you don't have to do it again!

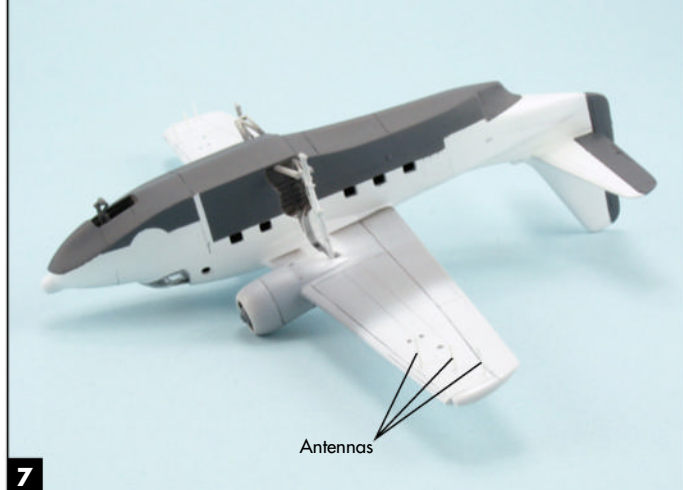
Holding the tubing with pliers, I gently cut them almost all the way through with a cutting disc in a motor tool at low rpm. Cutting all the way through is almost a guarantee that the piece will go flying! With just a bit of tubing still attached, I approached with the wheel on the other side to complete the cut.

After priming to check my work on the

seams, I attached the landing-gear legs and installed a vacuum-formed replacement for the canopy, fairing it in with more white putty, **4**. I cut out the overhead hatches, planning on putting in replacements later on; I wanted them open to reveal some of the cockpit detail.

A note about painting over solvent-based filler putties like Squadron's: After

filling and sanding to smooth the putty, I coat it with Pledge FloorCare Multi-Surface Finish (PFM). This provides a clear acrylic barrier between the putty and primer, both solvent-based. This is because sometimes a primer will attack and etch the putty, and that requires a little more putty to smooth it. The PFM will help prevent that frustration.



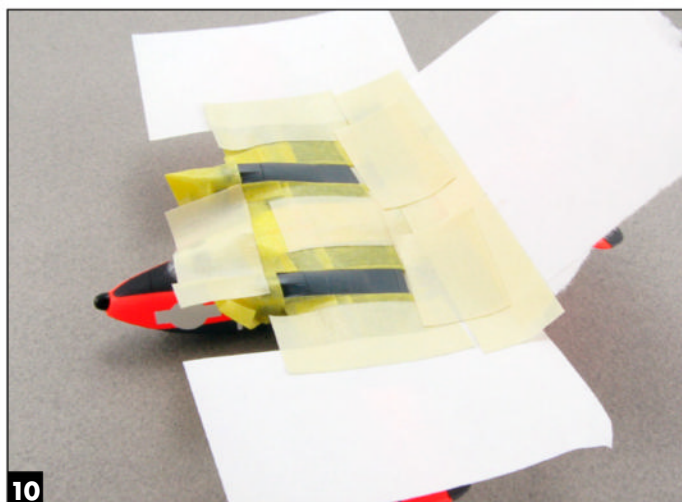
7 The nearly invisible antennas and the outer wing panels were going to receive red, so they were base-coated white.



8 A semicircular cutout of masking tape helped shape the front tip of the black antiglare panel on the nose.



9 After working the fuselage, masking the wing panels was easy. Red paint lights up the wingtips and antennas underneath.



10 More masking, more airbrushing: The radome is painted Floquil engine black. After painting the red on the front fuselage, I had a lot more to cover up before spraying the black bands over the engines.

Ready to paint

Now for the hard part: Painting this little bird. After hand-brushing the engines, I buckled down on a challenging scheme that would involve engine gray, red, and white.

I began with Testors enamel white (which I like because it does not yellow over time). I stuffed cotton in the open hatches, taped off the windshield, then set the pressure at 23 psi and airbrushed Testors white enamel cut with lacquer thinner, **5**.

I let that paint dry for about four days before attempting to mask over it — for mask I would! Many painting sessions involved an hour of masking, 10 minutes of actual spraying and cleanup, and 3 more minutes of removing masking tape. Time consuming, yes, but I double-checked all the tape seams beforehand and was rewarded with no shortfalls or overspray.

The next color up was engine gray, **6**. Planning for a white surround on the national insignia on the forward fuselage, I had to obtain the appropriately-sized insignia, measure, and cut out a circle to keep

that area white. It took time, but it was a fun challenge to use a ruler and circle template to ensure the area was big enough and would fit in with the paint line, and to mask the right amount of white for the surround. The white vertical area just aft of the surround would be the background for a *Danger Propeller* stripe.

They are difficult to see, but I have installed three antennas on each wing, **7**. Eventually they will be red, so they are base-coated white for brightness. I only broke off each of the aft antennas once — a pretty good batting average for me. In the same photo you can see I've added brake lines to the main gear struts and some giz-mological wiring inside the tiny wheel wells. Hey, it all adds up!

Removing the masking tape reveals all the engine gray areas, **8**. I cut a circle out of masking tape and used the cut-out tape to form a half-circle for the front end of the antiglare panel; go back from there to complete the edge of the antiglare black. Two tangents of thin tape going back to the windshield completed the masking for that

little area, which I airbrushed with Floquil engine black.

Airbrushing the outer wing panels was a breeze, **9**. The wingtips and antennas are Testors Model Master fluorescent red enamel (No. 4703, FS28915). (Sorry to say, the Floquil paints are both out of production. However, there are equivalent colors in other lines.)

Cutting a circle and a couple of rectangles out of masking tape, I covered the area needed for the white surround of the national insignia on the fuselage fronts, then masked the front fuselage to paint its portion of red. Next step was to mask everything to paint the black bands over the engine, **10**.

For de-icing boots, I applied strips of Scale-Master black striping decals above and below the wings' leading edges, **11**, filling in with Floquil engine black (being careful to stay inside the lines), **12**.

The stars and bars fit the spot on the front fuselage. Then I applied the rest of the decals, **13**. Note the odd inboard positioning of the word *NAVY* and the national



11 Here you see white surrounds for the national insignia and other markings still to come. I edged the de-icing boots with Scale-Master black decal striping ...



12 ... then filled in by brush-painting Floquil engine black. A flat clear coat blended the sheen of paint and decal striping. There are the decals for the white surrounds — and they fit!



13 More decals: The kit-supplied propeller warning stripe fit upfront just fine.



14 I put together tail markings for Naval Air Station Whidbey Island using lettering from I-94 Enterprises, which along with markings for wargaming pieces has an assortment of tiny black and white lettering.



15 I rifled through my spare decals for various stencils to apply around the airframe. Finding the nose gear was a little too short to give the plane the right stance, I added a styrene dowel to the gear leg to raise the nose.



16 Balls of cotton fill the hatches, and masking tape covers the windshield in preparation for a clear flat coat that will give the paint and decals a uniform sheen.

insignia on the wings. These aircraft arrived for duty in gray and white with the insignia painted on; the fluorescent red was added in the field. So, the factory-applied wing markings were inboard, making it easier for station personnel in the field to paint the fluorescent red and add the station designation.

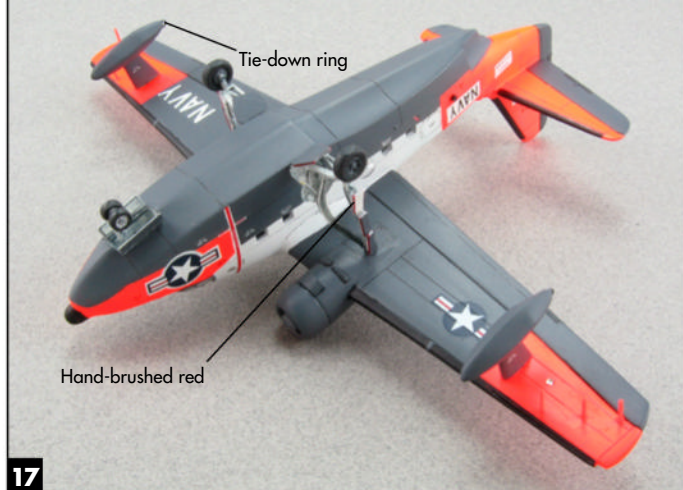
The gray walkway decal was about ½"

too long, so I sliced it just behind the V portion, took out the ½" section and applied the remaining two pieces. With an application of decal solvent, the cut line disappeared.

For the naval station designations on the tail, **14**, I used small lettering from I-94 Enterprises, a great source for very small decals. Along with wargaming markings,

I-94 has multiple national insignia and various sizes of lettering and numbering in black as well as white, and a host of other interesting small decals.

I searched my spare decals for stencils that would fit the tiny scale of this plane. I found them on Microscale data sheets for an F9F Panther and an F-4 Phantom, both with black and white stencils. Just about all



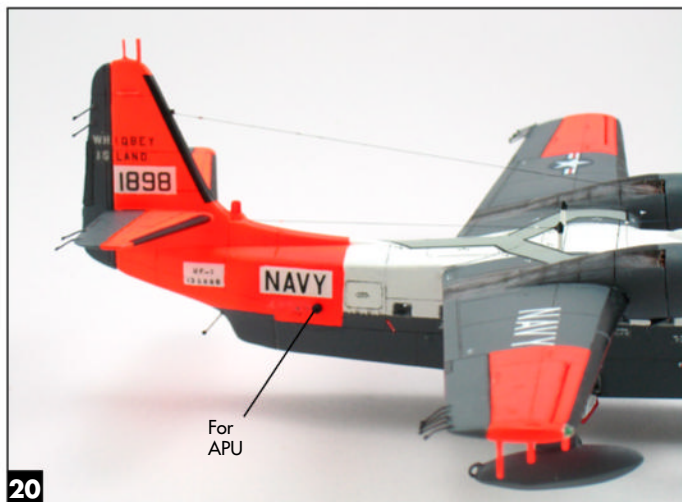
17 The main landing gear doors are hand-brushed with acrylic red paint. Thin solder forms a tie-down ring on the aft end of each pontoon. I drew in panel lines with a pencil and added open cowl flaps cut from sheet styrene.



18 I painted the props with Floquil old silver and modeled de-icing boots the same way as on the wings and stabilizers, with black decal striping and Floquil engine black to fill in the blanks. As with the wings, Testors Dullcote blended the decals and paint.



19 I vacuum-formed the side observation blister with clear acetate and brushed on powdered pastels for exhaust stains. The antenna masts are snippets of florist's wire with .006" Dai-Riki fishing line for the antenna line.



20 I made static dissipators from thin stretched sprue with white glue for the ends; they're anchored with a drop of super glue. A slice of styrene tube serves as the APU portal just under the NAVY marking.

F-4 Phantom stencils are easily identifiable, so I cut them up to disguise where they came from, **15**.

The nose gear leg came up short, producing a "California Rake" with the fuselage canted forward. I glued in a small piece of plastic dowel to induce the Albatross' characteristic tail-low stance.

I filled the open hatches with little balls of cotton and masked the windshield, then sprayed a clear flat coat to seal the decals and dull the shiny paint, **16**. I'm glad I did this late in the build; it is far easier to remove finger smudges and such from a gloss finish than it is when it's flat.

To outline the red edges of the main landing gear doors, I hand-brushed them with red acrylic paint, **17**. If you work quickly you can make little corrections with a quick swipe of a damp cotton swab, easily removing the red acrylic from the enamel-painted surface.

Panel lines are lightly drawn with a soft-lead pencil, easy to do with recessed panel

lines and a sharp point. Note the tie-down rings on the aft end of the pontoons; they are thin solder, super glued in place. Bits of thin styrene sheet provided open cowl flaps on the underside of the engines.

I sprayed the propellers with Floquil old silver, **18**. The de-icing boots on the props are thin strips of black striping decal on each side of the blade; I hand-brushed blank spots with Floquil engine black, same as on the wing and tail de-icing boots. A black wash lent depth to the hubs. I finished the props with Testors Dullcote.

To replicate the bubble of the side observation window, I carved and sanded a piece of plastic stock and used it as a master to vacuum-form a blister that I attached with white glue, **19**.

I used powdered pastels for the exhaust stain: first black, then a little brown, and, finally, light gray. When that was complete, I detailed the cross-panel lines with a smaller brush using black pastel to show the bit of residue that would build up there.

Antenna masts are made from thin florist's wire, super glued for strength. The antenna line is my old standby, Dai-Riki .006" fishing line, with a couple of drops of white glue for the insulators.

The static dissipators were made from very thin stretched sprue followed by a couple of applications of Elmer's white glue for the knobs on the ends, **20**. I used a tiny dab of super glue to make sure they stayed in place when I mounted them. They looked OK to me at the time, but as I looked at the photos I thought about taking them back off. But that would have meant sanding and respraying, and I just didn't want to do all that again.

I decided to live with that and chalk it up to physics — life's not always easy in 1/144 scale. But even though the model has only a 6" wingspan, there was room to add details such as the overhead hatches on the canopy, antennas, and observation blisters. It fills a void in the modeling world and fits nicely in my remaining shelf space. **FSM**

"EASY EIGHT"

**U.S. MEDIUM TANK
M4A3E8 SHERMAN
EUROPEAN THEATER**



An Easy Choice to Bolster Your Collection

1/35 U.S. Medium Tank M4A3E8 Sherman "Easy Eight" European Theater (Item 35346)

The U.S. M4 Sherman tank was undoubtedly one of the symbols of WWII, deployed in great quantities and numerous variants to counter the threat of German armor. One such variant was the M4A3E8, which was one of the final Sherman types and thus had the benefit of design improvements developed from experience in battle. These included a hardy welded late production hull, plus the welcome addition of the 76mm main gun capable of penetrating 135mm sloped armor from 900m. It was also fitted with new Horizontal Volute Spring Suspension (HVSS), and wider tracks, making for the significantly more comfortable ride that led to the M4A3E8's nickname of "Easy Eight." They were thrown into their maiden operation in the Battle of the Bulge in December 1944 as part of the 4th Armored Division under General Patton's overall command, contributing to the relief of the besieged town of Bastogne and the eventual triumph of the Allies in the European Theater. Now, this Tamiya-designed "Easy Eight" joins the famed 1/35 scale Military Miniature Series.

★Tamiya undertook exhaustive surveys of real M4A3E8s in order to depict its form with great accuracy, including the subtly curved turret surfaces, flat welded hull panels and the HVSS. ★Slide molded turret and upper hull parts offer an unbeatable combination of detail and fuss-free assembly. ★Features detailing on commander and driver hatch reverses, such as separately molded periscope parts. ★Engine grille, rear-installed deflector, and tool parts showcase stunning realism.

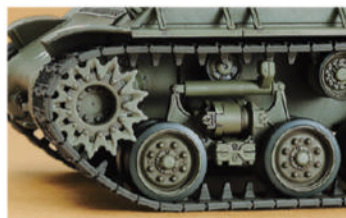
Comes with 2 European Theater marking options.

**1/35
SCALE**



Length: 214mm

★Images show assembled and painted kit.
★Product may vary from images shown.



Wide, single-pin T66 tracks are realistically depicted using belt type parts. Drive sprockets feature precisely molded holes.



Comes with commander torso figure and clear parts to depict cupola vision blocks.



Slide molded parts artfully capture surface textures of cast turret and welded upper hull panels.



**1/35 Military Miniature Series
U.S. Tank Crew Set
(European Theater)** (Item 35347)

Add even greater realism to your "Easy Eight" with this comprehensive set of 6 U.S. tank crew figures!
★Tank model not included.





A vintage kit like this Tamiya PzKpfw IV Ausf D can be made to look realistic and field-ready using modern weathering techniques.

Old kit, NEW WEATHERING

Finishing a 1970s kit with today's techniques

BY DAVE FOREST • PHOTOS BY HARVEY LOW

When Tamiya released the PzKpfw IV Ausf D kit in 1977, I fell in love with it. I credit this kit with igniting my passion for 1/35 scale armor. And who wouldn't be motivated by that magnificent box art?

While not up to Tamiya's current fine "shake and bake" kit standards, the molds hold up remarkably well for their age. Better yet, this kit is still generally available at hobby shops and swap meets for less than \$20.

That makes it a great kit for someone new to the hobby or just getting back into it. It's a relatively simple build, not overwhelming like some newer, more-detailed kits full of photo-etched (PE) add-ons.

Here, I'll show you how to take a vintage kit like this and make it seem new by using today's superb weathering products and techniques, such as washes and dry-brushing, pioneered by the likes of Shep Paine and Francois Verlinden.

Assembly notes

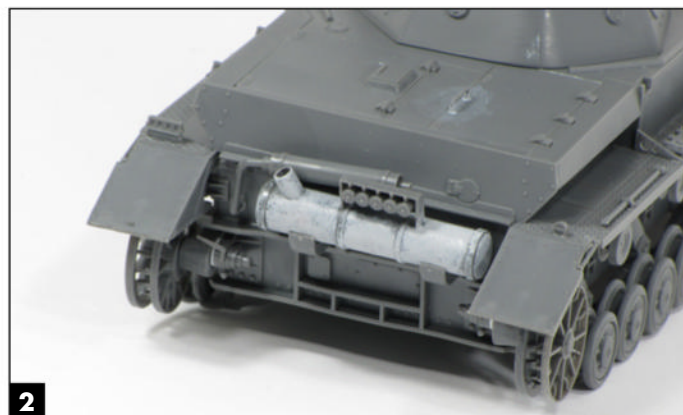
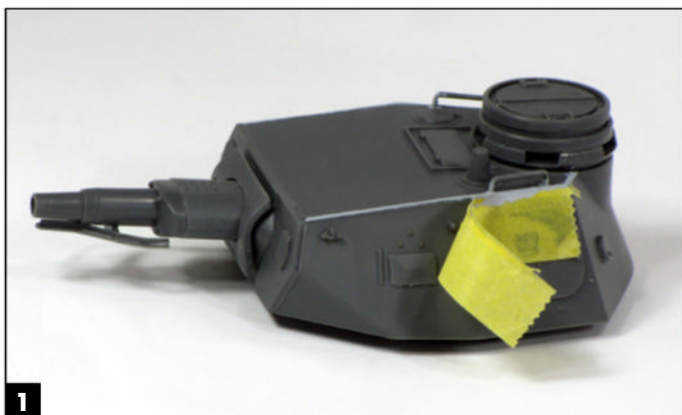
Follow the instructions and be careful applying glue; any excess can mar the plastic surfaces it contacts. I prefer Tamiya thin cement because it flows easily into seams and joints.

As a testament to this kit's engineering, little filling and sanding was required. There were, however, a few key items to be dealt with. Older Tamiya tank kits were made to house a small electric motor in the

hull. As such, there are holes in both the bottom and sides of the lower hull for switches and mounting braces. These need to be filled.

I used a combination of Evergreen styrene sheet and super glue. I find super glue a better alternative to normal putty for filling holes, gaps, and seams. I filled the holes with styrene, sanded them flush, filled remaining gaps with thick gel-type super glue, and sanded again. I also used a liquid putty, GSI Creos' Mr. Surfacer 500, to fill a small gap between the turret roof and the sides as well as to simulate prominent weld seams.

Tamiya tape was used to mask a thin line along the seam where I applied Mr. Surfacer and textured it to simulate a weld

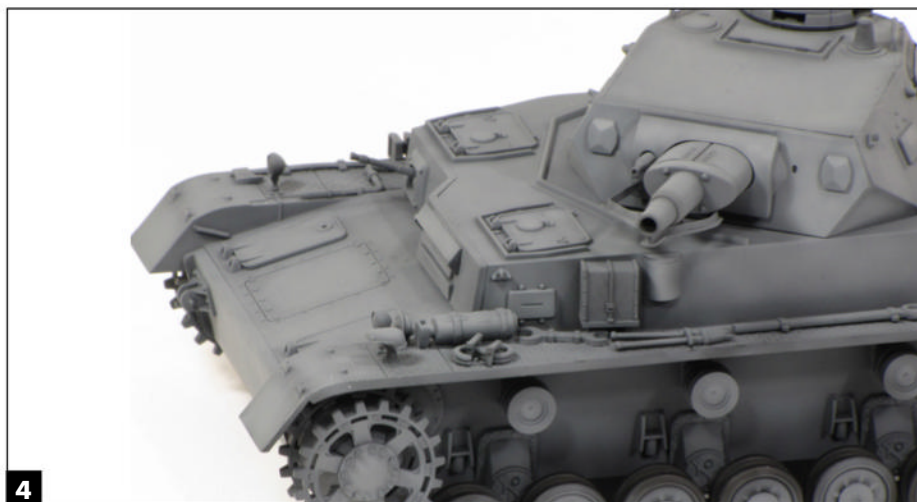


1 I use masking tape, Mr. Surfacer 500, and a hobby knife to enhance or correct weld seams lost in the build process. Apply the tape along the seam leaving only the seam exposed, then apply Mr. Surfacer along the exposed seam and work in weld beads with a hobby knife before the liquid putty dries. Remove the tape before the putty fully dries.

2 I added texture to the muffler, too, with Mr. Surfacer 500 to provide the roughness needed for finishing and weathering later. You also can use Mr. Surfacer to fill gaps in grab-handle holes on the rear deck.



3 Priming is vital to a good finish. Games Workshop Citadel Color chaos black primer provides an excellent foundation for subsequent painting and weathering effects.



4 You can see that the base panzer gray coat has been applied in several thin layers, allowing the black primer to act as a shadow for panel line and recessed areas.

seam, **1**. Texturing was done with the blunt side of a hobby knife blade while the putty was still wet. I also textured the muffler and filled gaps around the grab handles on the rear deck, **2**.

Painting

For an early-war German tank, any color can be used so long as it's panzer gray.

There's a lot of debate among modelers about the true camouflage colors used on armored vehicles and planes. I used to obsess over this, but now have rationalized that it's really impossible for anyone to say what was the true panzer gray. Between the imperfection of period color photos and the effects of weather, mud, and dust, no one can be 100% sure. So there's room for at least some artistic license. However, before worrying about the gray, you need to prime the model, **3**.

It's good to use primer before adding

colors to your model because it creates better adhesion for later paint layers and highlights any gaps or other deformities on the model so you can fix them now. This is especially true for models with PE, metal barrels, resin, or other media. Applying straight color paint without the benefit of a primer can result in chipping and flaking in the finish.

There are many primers. I chose Games Workshop Citadel Color spray-can chaos black because I wanted to leverage this dark undercoat in the subsequent application of panzer gray. Spray the model from a distance of 6-8" and let the primer dry for a day. I also kept the turret and hull separate for easier handling.

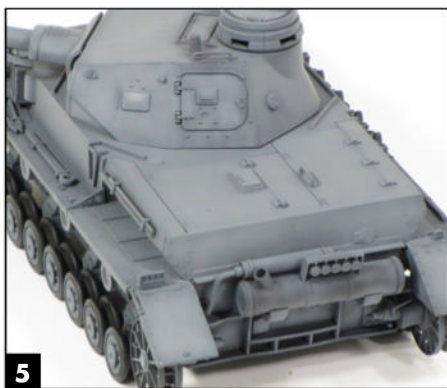
With the primer set, I applied a thin coat of panzer gray. My friend Dave Browne gave me a mix that I feel is spot on — 50% Tamiya German gray (XF-63) and 50% Kure Arsenal gray (XF-75). The Kure

gray imparts a subtle hint of blue to the mix that I find appealing.

Tamiya acrylics are best for airbrushing, and they thin nicely with a mix of Tamiya acrylic thinner (X-20A) and 91% isopropyl alcohol. The ratio I use for base coats is 40% paint, 30% alcohol, and 30% thinner. If there's one thing that will improve your airbrushing finishes, it's using well-thinned paints at low pressure (12-15 psi). Remember to airbrush in a well-ventilated area.

I loaded my trusty Aztek 470 airbrush with my custom panzer gray mix. I do virtually all airbrushing using the tan-colored fine spray nozzle (the Aztek has interchangeable nozzles for different application, facilitating cleanup and maintenance). Spraying at 12-15 psi, I applied the first gray coat, **4**.

I start spraying in the middle of large panels or surface areas and work my way



5 Next I sprayed the first lightened panzer gray mix over the base coat, working out from the center of panels toward the edges. Now you start seeing tonal variation in the color as you build up light layers of color.



6 I then carefully apply the second lightened panzer gray mix on raised details only — top of the armored vision covers on the main gun mantle and turret, the small center round hatches on the driver and radioman hatches, top of the headlights, raised hinges, and such.



7 Creating a natural wood finish on the various tools' handles adds a dash of color and some life to the model.

outward. The mix is translucent and will not cover the underlying black primer in one go. I build up layers of gray, being sure to let some of the black show through at panel lines, in shadow areas such as the turret cupola's base, and around hatches and other raised features. This gives depth to the model that you will not get with a uniform coat of paint.

If you're not sure you've covered enough, stop and take a break. You do not want to overdo it and eliminate the effect. You can always add color later. It's best to build up color in layers.

Once happy with the base color, I added about 15% flat white (XF-2) to my panzer gray mix and applied this lightened gray to the model, **5**. Again I worked out from the center of panel areas, applying light coats. You want to preserve the tonal variation achieved with the base coat. I added another 10% white to the mix and sprayed only those areas that would capture light naturally — tops of headlights, raised details on crew and access hatches, top of the gun barrel, etc. This last application of the lighter gray is meant to be subtle, a gradual buildup of color, **6**. If you overdo it, don't worry — there will be a chance to correct it later.

The tools were painted on the model using Vallejo acrylics, which are the best for brush painting, **7**. I used both the old wood (70.310) and new wood (70.311) colors from Vallejo's Panzer Aces series.

Once the paint was dry, I took a dab of wash brown oil paint (ABT-080) from Mig Production's 502 Abteilung range and placed a touch where the wood meets the business end of the tool and around the vehicle fasteners. With a brush slightly moistened with Humbrol enamel thinner, I dragged the oil paint along the handle, being sure to leave some of the brown in



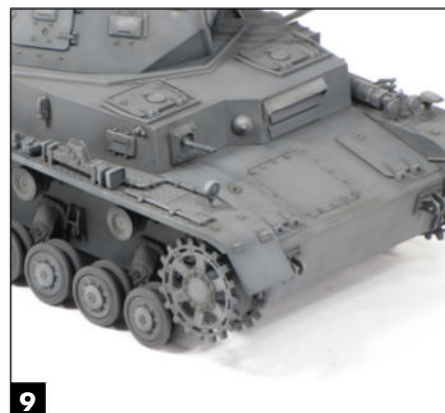
8 Adding a filter to the panzer gray base coat and lighter highlights not only enriches the color but also collects around all of the details, acting as a light wash. Subtlety is what you're looking for in a filter. It also enhances the earlier lightening effects.

those same areas where I applied the oil paint. This is an easy way of creating a nice wood handle.

I washed the rubber tracks in mild soap and water, then primed with Vallejo's track primer (70.304) from its Panzer Aces paints. When spraying, I used Vallejo acrylic thinner to thin the paint. Do not use the same thinner mix I proposed earlier for the Tamiya paints. As a rule of thumb, it's best to use the paint brand's own thinner. On older rubber tracks, it is important not to use enamels or lacquers. They will crack and flake.

Filters, dry-brushing, chipping

Next, I added depth to the finish with filters and dry-brushing. A filter is simply a thin oil or enamel paint wash applied to the model to vary its tones, while dry-brushing is the process of applying paint to only raised details with a brush that contains very little paint.

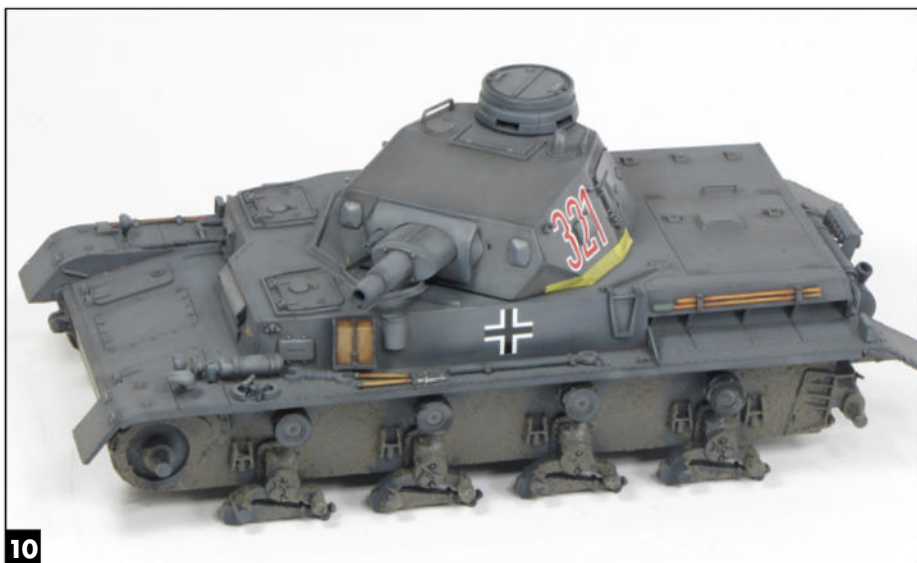


9 I follow the filter with light dry-brushing to make the details really stand out. The key here is a light touch with almost no paint on the brush. You want to avoid globs.

To apply the filter, I mixed two 502 Abteilung oils — starship filth (ABTF510) and wash brown — with Humbrol enamel thinner. It's important to use a thin mix, so I used 90-95% thinner and applied the wash to one area at a time, such as the turret or engine deck, **8**.

I also allowed the filter to pool naturally around details such as hinges, access panels and the like. This acts as a wash for these specific areas. When it was completed, I set the model aside to dry. You want to leave it for at least 24 hours. Once the first filter is dry, you can apply another coat if you are not pleased with the results. I was happy with one coat.

For dry-brushing, I used a mix of white oil paint and Abteilung's faded panzer gray (25% white, 75% gray). You are looking to get a color only slightly lighter than the base shade. If it's too light, the model will appear garish. I removed almost all the paint from the brush with a paper towel.



10

I used a strip of tape to align the turret decals, which were individually cut and applied to reduce the amount of carrier film that must be settled over the complex turret. The decals look bright here but will be toned down later. I've also added the first application of Vallejo dark earth textured paste.

You want to leave almost no paint in the brush when you touch it lightly to the raised details on the model, again building the effect slowly, 9. Subtlety is the key. Too much dry-rushing creates a toylike appearance.

Chipped paint lends authenticity to tank models; crew members climb all over the vehicles, leaving wear marks. Plus, tanks are always hitting rocks and trees. I simulated chipping with Vallejo's German black brown using a fine brush and a piece of sponge.

I applied chipping with the brush along edges naturally subject to wear, such as hatches and hull. Then I used the sponge to tackle larger areas — top of the turret, around the cupola, and access hatches. Be sure to remove most of the paint from the sponge. Otherwise, you will get globs of

paint on the model and ruin the effect.

To blend the various effects and create a uniform finish I sprayed a light coat of a thinned mix of the base color over the entire model — 90% thinner to 10% paint.

Decal work

I applied Testors Acryl gloss coat (60% Acryl gloss, 40% Testors Acryl thinner) to prepare for decals. Typically, I've used Pledge FloorCare Multi-Surface Finish, but sometimes it darkens the underlying paint. Testors Acryl preserves the underlying Tamiya paint color while providing a gloss texture for decal application. Not altering the color allows you to gloss only the areas receiving decals.

I liberated the decals from a Tristar Panzer IV Ausf D kit for Rommel's 7th panzer division during the Battle of France.

I love the look of those large red tactical numbers with white outline on the gray background.

The turret's complex surface (side hatches) did not allow for easy decal application. The 321 on the Tristar sheet came as one decal, so there was a lot of carrier film between the numbers. Applying this over the turret hatches would have obscured detail, so I cut the numbers apart to remove most of the film. I placed Tamiya tape along the turret to serve as a guide and applied each digit individually, 10.

Happy with each decal's placement and certain that they weren't going to move around, I applied Daco Product's decal setting solution. This stuff is magic! It is critical to apply an even coat on your decal and not let pools form, or you risk damaging the decal in those locations. Generally, a light coat is best.

Once the setting solution is dry, more applications can be made if you need to have the decal further conform to an awkward surface. The trick is to apply the solution with as few brush strokes as possible, then walk away for 30-45 minutes. Seriously, go somewhere else. You do not want to witness the sometimes horrific transformation your decal will undergo prior to settling around the surface details. Trust me. If you do watch this solution work its magic, resist the urge to touch the decal! Irreversible damage can occur. Let the solution do its job.

The remaining decals for the German *balkenkreuz* (cross) and divisional markings were applied in the same manner, with the exception that I used Microscale's Micro Sol to help settle the decals on flat surfaces.

Once all markings were placed, fully set and dry, I applied a couple of light coats of Model Master Acryl gloss on the decal



11

I applied a wash using AK Interactive earth effects to the Vallejo mud, and a light dusting of Tamiya buff to the areas where dust would naturally accumulate on the lower hull, front and rear mud guards, front hull, and running gear. I also toned down the decals with a highly diluted mix of the base paint.



12

The front hull's weathering is always a focal point on an AFV model. Layering of effects allows for a convincingly grimy finish. Vallejo mud forms the texture base. Then I apply washes and pigments alternately until I'm satisfied with the effect. A final misting of Tamiya buff brings everything together.



13

Lastly, I add rust-colored pigments from Mig on the muffer. These are best applied on a flat finish so they have a surface to cling to.

areas. I allowed the gloss coat to dry 24 hours, ensuring a strong barrier to protect the decals during the weathering process. I then sprayed the entire model with a couple of light coats of Vallejo's flat coat (60% Vallejo flat, 40% Vallejo thinner). This gives everything a uniform flat finish and protects the effects you've worked so hard to create.

The final step is toning down the decals. It's easiest to do this by misting a few coats of a thinned version of the base color (my custom panzer gray at a 10% paint to 90% thinner ratio) on the decals. This harmonizes the bright decals with all previous effects.

Finishing and weathering

Tanks get dirty, so I believe in modeling them with mud and dirt on them. If done well, this gives a model a realistic look. But how much weathering you apply is up to you.

Historical references, model magazines, and the Internet are good sources of inspiration and information. I did a dry weathered look, attempting to simulate dried mud and dust buildup.

I first added a mud texture to the running gear and lower hull sides using Vallejo's dark earth (26.218). This is a textured, earth-colored paste perfect for simulating mud on AFVs. It provides an excellent foundation for further weathering, and is a decent basic mud color, too, so it is a perfect first step.

Be sure to place mud in areas where you would expect it to collect on real tanks — on the running gear, under the mudflaps, front and rear hull plates, road wheels, bogies, and such. Consistency is vital. Note, too, that dark earth dries with a slightly glossy sheen.

Once the mud was dry, I gave it a quick wash of artist's oils — a thicker version of the same mix I used for my filter (80% enamel thinner to 20% oils). This lends depth to the otherwise dull finish. I then added dry Mig pigments (dry mud and Europe dust) to the mud to impart a dry-mud look and vary the color and depth.



The old Tamiya kit now looks more realistic and like the tank has been serving in battlefields for years. All it took was some new finishing and weathering techniques, including filter application, dry-brushing and paint chipping. And this was an economical build!

I then kept them in place using Mig's pigment fixer. Simply wet a brush with fixer and dab onto the pigment-rich areas. Capillary action will pull the fixer from the brush onto the desired area. I find this is the best application method, as it doesn't move the pigment around on the model. I then misted on thinned coats of Tamiya buff (XF-57) to simulate dust, using a ratio of 10% paint to 90% thinner, **11**.

I slowly increased the density of the effect on areas of the tank that would logically see dust collect — front hull, rear hull plate, front and rear mud guards, **12**. The thin mix allows you to build up effects in a slow, controlled fashion.

Once happy with the dust effect, I added a wash to add depth to the areas that had the most dust buildup using AK Interactive's mud wash. These included the

front-hull brake-access hatches and towing brackets.

The rear muffler was treated with a series of Mig rust-colored pigments (standard rust, old rust, light rust) in a random pattern over the flat panzer gray finish, **13**. I also applied the same treatment to the support brackets under the muffler. I then locked everything in place with more Mig pigment fixer.

The previously primed rubber band tracks were given a wash using AK Interactive's track wash, then treated with the same Mig pigments used for the dried mud and set with its pigment fixer.

The final step was simulating worn metal on the track's contact areas. I applied AK Interactive's dark steel pigment to the guide horns and raised details of the treads. I find the human finger is best for applying pigments to raised areas. I dipped my finger into the dark steel pigment and rubbed the guide horns and treads. Raised areas naturally collect the pigment from your finger, yielding a convincing effect. The rubber-band tracks were then mounted on the running gear.

I removed the front drive sprockets (thanks to the poly caps) to allow the tracks to be run around the remaining running gear with some slack. I then reinserted the drive sprocket and fit it into the track.

Voilà! The model was done! **FSM**

Meet Dave Forest

Dave has been building models since he was 6, when his parents gave him a kit to keep him out of their hair. Forty years later, he mainly focuses on 1/35 scale World War II armor, but also likes aircraft and sci-fi subjects as a change of pace. He hangs out with a "great group" of inspiring modelers in Ontario. When not at his Toronto workbench, he is a senior IT executive for a large private company and enjoys quality time with his wife Carolyn and their character of a cat, Seymour.



Now at the NEW FineScale.com

PRODUCT REVIEWS READER GALLERY HOW TO VIDEOS FORUMS SHOP ABOUT US

FineScale.com/Reviews

Workbench Reviews

Subscribers receive early access to upcoming reviews.

Weekly free review

Check out this week's free model kit review.



FineScale.com/HowTo

Article archive

Search our collection of stories to find answers to your modeling questions.

Tips database

Subscribers can search our extensive database of reader-supplied tips.

FineScale.com/OnlineExtras

Download a desktop wallpaper

You can download a studio quality wallpaper of the Kitty Hawk's OV-10 Bronco that Larry Schramm built for a Workbench Review on page 61 of *FineScale Modeler*.

Best of the 2015 IPMS Nationals

See a special 2015 IPMS/USA National Convention Gallery that we've put online. To look at the exclusive photos and video just type 2015 IPMS into our Search function. That's the little magnifying glass icon in the navigation bar atop the home page.

FineScale.com/Videos

Video issue previews

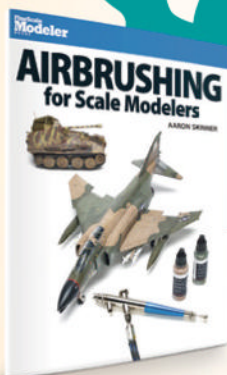
FSM Editor Mark Savage highlights what's in the current issue.

New Product Rundown

Editors Elizabeth Nash and Aaron Skinner pick the hottest model kits, open the boxes, and tell you why they rock.

SUBSCRIBE AT FINESCALE.COM AND GET IMMEDIATE ACCESS

PLAN. PREP. PAINT.



#12485 • \$22.99

Aaron Skinner's new book shows you how to complete the entire airbrushing process, from planning to execution. This comprehensive guide contains 600+ step-by-step photos so you'll quickly master these valuable techniques.



Buy now from your local hobby shop!
Shop at KalmbachHobbyStore.com



Drawing weld seams on small-scale ships

Step-by-step outline of a simple technique to boost detail

BY GREG EMBREE

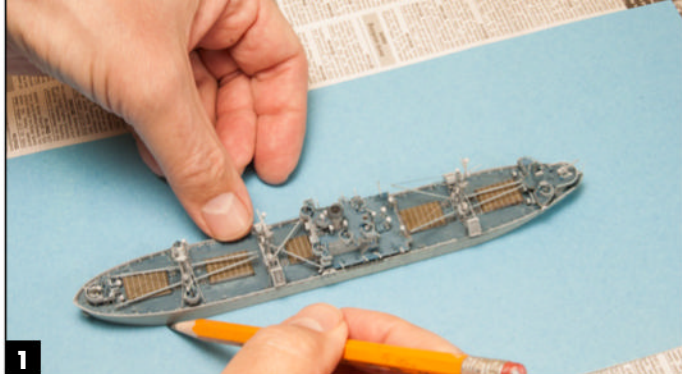


Pencil weld seams supplement faded paint and streaks of rust to give Sky Wave's 1/700 scale Liberty ship a proper seagoing appearance.

Many American vessels built during World War II had welded rather than riveted hulls. Notable among those were escort carriers, destroyer escorts, and cargo ships. Welding the hull plates sped construction, helping U.S. shipyards crank out 2,710 Liberty ships, the armed cargo vessels that formed the backbone of Allied supply lines on the way to victory.

These weld seams are clearly visible in photos of the ships. Reproducing them adds subtle realism to models. It's important not to overdo the effect, especially in small scale. So, I draw them on the hulls with a pencil. One challenge is replicating the gentle curve of the seams on some ships.

I developed a simple, inexpensive method to represent those seams with a No. 2 pencil, poster board, hobby knife, scissors, and modeling clay.



1 First, I traced the outline of the hull — in this case an almost complete Sky Wave 1/700 scale Liberty ship — onto poster paper.



2 I cut around the outline with a hobby knife using a steel straightedge to guide it along the sides.



3 After discarding the cutout, I separated and labeled the outer edges. These will be the seam guides.



4 Next, I packed modeling clay against the hull using a finger and a butter knife to smooth and shape it to match the weld seam; photos are invaluable. Here I angled the clay up slightly at the bow and stern.



5 I placed half of the template against the hull, adjusting the clay and trimming the poster board for the best fit. Then, I lightly traced a line with a sharp No. 2 pencil along the edge of the template.



6 That was easy: Now I have a curved horizontal weld seam. If you aren't pleased with the result, simply erase it and try again. Repeat the process on the other side.



7 I drew the vertical seams next, using a square to ensure they were perpendicular to the horizontal seams. Photos are again indispensable for getting the lines right.



8 For rust, I traced some lines with a pale vermilion Prismacolor pencil. A mix of cadmium orange and burnt sienna artist's oils produced heavier rust around the anchor, while pastel chalks added another subtle layer. I sealed the pencil and weathering under a coat of clear flat. **FSM**



Australian Model Expo 2015

Scale modeling is alive and well in Australia, judging by the more than 2,000 models on the tables at the 2015 Model Expo in Springvale, Victoria in June. In addition to aircraft, cars, and armor, less traditional subjects such as Gundam, mecha, sci-fi, and diorama were prominent. We present a few of them here. The 2016 show is scheduled for the Queen's Birthday weekend June 11-13. More info: www.modelexpo.com.au

▲ FRED HARRIS

THOMASTOWN, VICTORIA, AUSTRALIA

Fred modified Mach 2's 1/72 scale DC-4 with a scratchbuilt fiberglass nose to model an ATL Carvair in Ansett service. Using a sheet-styrene template, he carved a master for the front end from sugar pine. Plaster molds of the master were used to form the fiberglass parts. He also increased the height of the tail fin. After a base coat of Alclad II primer, he painted the upper fuselage with Testors white enamel and the rest with metallic shades from Testors Model Master, mixing for shading and polishing them with SnJ powder. The livery decals came from Hawkeye Models.



▲ STEVE HANSFORD

BAYSWATER, VICTORIA, AUSTRALIA

Feeling the need for speed, Stephen detailed Fujimi's 1/24 scale Ferrari 458 Italia with a separate photo-etched parts set, also from Fujimi. The sports car's lustrous finish is multiple layers of Tamiya spray-can Italian red and clear gloss polished with Micro-Mesh sanding pads and Meguiar's Scratch X fine scratch and blemish remover.

 www.FineScale.com

See more models from the Australian show at FineScale.com/OnlineExtras.



▲ **CHRIS PANDOFF**
RESERVOIR, VICTORIA, AUSTRALIA

Chris filled GEOmetric Design's 1/8 scale vinyl warrior from "Aliens" with plaster for support, then sprayed it with automotive primer. He applied the xenomorph's skin tones with acrylic paints, enhanced detail with artist's oil washes, and brushed on acrylic clear floor finish for shine. Stretched clear sprue dipped in two-part epoxy and colored with Tamiya clear green added gruesome goo. A custom-built base finished the fearsome creature.

▲ **GRAHAM McNAMARA**
DECEPTION BAY, QUEENSLAND, AUSTRALIA

Over Tamiya spray-can primer, Graham added a layer of Tamiya NATO black to pre-shade Pegaso's 90mm white-metal Spartan. He hand-painted the figure with Vallejo acrylics. The armor was base-coated with bronze, followed by washes of Vallejo olive drab, Andrea inks, and an acrylic wash from Secret Weapon Miniatures called Baby Poop.

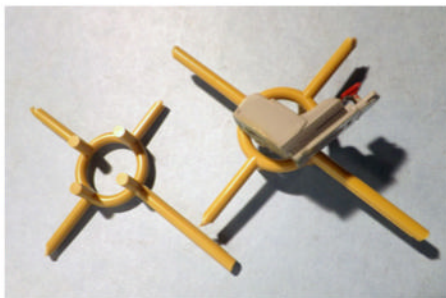


◀ **STEPHEN PORTELLI**
LITTLEHAMPTON, SOUTH AUSTRALIA, AUSTRALIA

Alpha Flight's 1/48 scale resin and photo-etched metal Savoia-Marchetti S.M.84 received a lot of care and attention from Stephen. He corrected the bulkheads and scratchbuilt interior details for the aft sections and all of the gun mounts and guns, and opened the clamshell lower gun position. He also wired the engines, installed retraction struts on the landing gear, and added landing lights. The camouflage is Testors Model Master and Humbrol enamels with colors mixed until they looked right, says Stephen. It required several sessions to paint. "Airbrushed freehand is the only way I think this kind of camo can be done," he says. **FSM**

READER TIPS

By Mark Savage



Need a quick spray painting stand? Cut the circular sprues from a kit — they work great!

Sprue-based spray-painting stands

I've found that the circular sprues on many kits from companies such as Academy, Tamiya, and Dragon make excellent spray-painting stands.

Just snip out the circular sprue along with as much of the adjoining crossbars as possible. A drop of glue on the "feet" underneath the circle will hold it in place and small to medium-size parts can be held securely just above any surface for spray painting.

— Frank MacKay

Scarborough, Ontario, Canada

Cutting vacuum-formed canopies

No one likes to cut out vacuum-formed canopies; however, my tip makes it a lot easier. I use this often, and it works for a lot of purchased canopies and all homemade vacuum-formed canopies.

For purchased canopies, place the kit's canopy *inside* the vacuum-formed canopy and use the underlying canopy as a nice, hard guide to cut against.

For homemade canopies, just place the vacuum-formed piece over the buck you used to mold it. It always works because it's a perfect fit!

I used this method tonight to make a vacuum-formed canopy for my new-tool 1/72 Airfix Spitfire. It took me 3–4 minutes to perfectly cut out the canopy.

Have a tip or technique to share?

Send a brief description along with a photo to tips@finescale.com or visit FineScale.com and click on "Contact Us." Tips are paid for upon publication; if you live in the U.S., we'll need your Social Security number to pay you. FSM obtains all publication rights (including electronic rights) to the text and images upon payment.



Simple solution to paint coagulating at a bottle's bottom: Just use magnets to stir it up.



Magnets help stir paint

This is a modeling tip to help stir up the paint that settles at the bottom of a bottle. Here are the two simple steps I use to make mixing paint in drop-dispenser bottles much easier: I just drop a small magnet into the bottle and use a strong magnet on the outside to pull the smaller inner magnet around and stir any paint settled on the bottom of the bottle.

— David Emmerichs

Los Angeles, Calif.

If you bought a pre-made vacuum-formed canopy and cannot use the kit's canopy under it, simply outline the vacuum-formed canopy in some fine-line tape (Tamiya 6mm for me!) and use that as a guide. This works wonders — you just have to go a little slower so you don't cut through the tape.

— Michael Montefusco

Dover, Del.

Repositioning ailerons & elevators

Did you ever try to remove aircraft ailerons and elevators with plans to place them at a different angle, only to find out that too much plastic has been removed (especially in 1/72 scale)?

Try using mini-disc saws that are meant for power tool use, but use them by hand! They are thinner than photo-etched saws, stronger, and you have greater finger control of the cut.

— George Athanatos

Kalamaria, Greece

Easy way to attach canopies

Here's an easy way to attach canopies or windows to aircraft models.

I thin, ever so slightly, Micro Kristal Klear with water and apply a small amount

to the fuselage frame that the canopy will sit on, or the recess in which the window will be placed. If any of the Kristal Klear gets on the clear part it can be removed easily with water and won't mar the clear plastic. When the Kristal Klear hardens, it dries clear and solidly holds the window or canopy in place.

— Dennis Cermak

Fraser, Mich.

Everyday items have new uses

Everyday household items can become useful shapes in vignettes and dioramas. For instance, a series of indentations in an ice-tea bottle, when filled with spackle, becomes either a rutted road or garden furrows, depending upon the scale.

The ice-tea bottle's caps can be filled with spackle to prevent bending, then sanded smooth and covered with modeling putty to provide a paintable surface. These can become concrete pillboxes or the tops of metallic underground storage tanks, again depending on the scale.

Right now, I'm using all of these to enhance "alien" ground cover in a forced-perspective science-fiction vignette.

— Ned Barnett

Las Vegas, Nev.

QUESTIONS & ANSWERS

By Mark Hembree

Figures for airports

Q What is a good source of airline ground crew and mechanic figures?

— *Dutch Lepeska*
Melbourne, Fla.

A Dutch, assuming you are working in 1/144 scale, the prevalent measure of model airliners, there's not a lot available in the way of figures. Your best bet is the German company Preiser (www.preiser-figuren.de), with figures available from several sources worldwide. You may not get exactly what you want, but in that scale it's easy to convert figures to your specific needs. Four choices I found were: NATO pilots and German ground crew (No. 77100, 18 figures); USAF World War II pilots and ground crew (77101, 12 figures); 1960s civil-aviation pilots, stewardesses, and ground crew (77102, 18 figures); and airline and airport staff (77103, 11 figures).

Additionally, Preiser and others make a multitude of figures for N scale model railroads — equivalent to 1/160 scale — which can provide you with everyone you need around the tarmac, from porters to policemen. With human figures, you can get away with the difference in scale.

You didn't ask about ground-support equipment, but, unlike figures, there is plenty available. Brands include Bra.Z. Models, Sankei, Eastern Express, and Extratech.

Body-fit is a nervous business

Q I have a Monogram 1969 Camaro model kit in 1/12 scale. I haven't started to build it, but I have done some dry-fitting. I can see a problem with mounting the body and interior subassembly to the chassis. The fit is so tight that the body will have to be spread apart to go over the interior and the chassis. I have done this as a dry-fit test, but I am afraid that once everything is painted and the final assemblies are ready to be joined, the tight fit will ruin the paint job on the body. How can I prevent this?

— *David Burns*
Asheboro, N.C.

A Stretching a body to go over an interior and fit to a chassis can be nerve-racking, to be sure. It is a leap of faith — but remember, if there's no other way it means others have done it before you.

I asked Jim Haught, editor of *Scale Auto* magazine, and he told me he is not aware of any unusual fit issues with that particular kit.



1) Paint yellow areas; 2) mask; 3) apply olive drab; 4) remove mask ASAP; 5) lightly spray with thinner to "relax" paint edges; 6) apply clear gloss coat; 7) apply decals, use solutions to soften; 8) hand-brush details; 9) finish with flat coat; 10) deploy weapons.

Painting bombs, rockets, and missiles

Q I've been modeling off and on for most of my adult life and I've always had one problem that drives me bonkers. Does anyone have any advice concerning the painting and decaling of 1/72 and 1/48 scale bombs and rockets?

— *Lewis Baird, Brandenburg, Ky.*

A Lewis, you haven't mentioned a particular problem, so I'll try to cover your topic in general using this photo as an example.

To paint bombs, rockets, and missiles with all their markings, choose the order in which to apply colors and mask accordingly. In this simple example of a 500-pound bomb, the yellow would be painted first. Wait a day or two to make doubly sure the paint is dry and will withstand masking. Then apply masking in the desired shape of the yellow — in this case, a yellow nose and a yellow stripe aft — and be sure the masking edges are burnished down to prevent paint from bleeding underneath. Then paint the next color (here, olive drab).

This time, don't wait to remove the masking. Remove it as soon as the piece is dry enough to handle; this improves your chances of removing the mask without messing up the edges of the new paint. (You can slip a toothpick under an edge of the mask to get it started without damaging the yellow paint.) When you pull off the masking, there may be a ridge at the edge of the stripe. If you are using an airbrush, spraying a very light coat of thinner at low pressure (10-15 psi) will cause the paint to "relax," leveling that ridge. Now leave it alone for a day to let everything dry.

Next, give the bomb a clear coat of gloss to make the surface more receptive to decals. Let that layer dry well, too. Then apply decals. Decal solutions such as Microscale Micro Set and Micro Sol will soften the decals and help them conform to the surface. (Note: Some solutions eat decals! Test one you don't need before proceeding.) Let the decals dry.

Details, such as the metallic parts you see here, can be hand-brushed. When that paint dries, a final coat of flat clear will blend the finishes, take the shine off the decals, and make everything look realistically painted.

Take your time, Lewis, and your ordnance will be on target.

It continues to show up for sale at model-car shows, either in the box or already built, he says, another indicator that the kit can indeed be built.

Our best advice is to don gloves (to pre-

vent fingerprints), lay the car body upside down on a soft towel (to prevent scratches), and perhaps angle the interior/chassis into the body. Then, take a deep breath and stretch the body around the chassis. **FSM**



Kitty Hawk strikes with big Airacobra

Centered around a nose-mounted 37mm cannon firing through the propeller hub and powered by an Allison engine behind the cockpit, Bell's P-39 was unique. Although outclassed by the Zero and Bf 109, the Airacobra helped hold the line early in World War II until new fighters came along.

Nicely molded in light gray plastic, Kitty Hawk's 1/32 scale P-39 is free of flash but has some ejector-pin marks. Options abound, including separate flaps and control surfaces, detailed gun bay in the nose, well-appointed cockpit with posable doors, Allison engine with detailed bay, wing gun options, separate access panels for the radio compartment and oil-tank bay detail, and a bomb and drop tank for the centerline rack. Wow!

The interior construction mirrors Bell's design: A large, flattened U-shaped floor occupies the fuselage to which the engine, cockpit, and gun-bay parts attach.

Construction began with the engine. The individual exhaust pipes comprise two parts that I found difficult to remove from the sprues without damage.

The assembled pipes are handed, but the instructions are not clear on which side of the engine they attach — the part numbers are the same! Photos indicate the pipes should be parallel with the ground.

The gun bay, with 37mm cannon, .50-caliber machine guns, and associated equipment, went together easily.

Cockpit detail includes photo-etched seat belts, but the back wall is solid rather than having the armored glass used on most P-39s.

After attaching the nose-wheel bay to the floor, I installed the interior assembly in the fuselage along with the oil tank and its shelf and radio.

The fuselage closed around all the detail without problems until I added the nose. The upper panels (parts D19 and D22) were out of whack; I suspect the problem is

the gun-bay details. If I aligned them at the front, the panels rode high at the back in front of the windscreen. But positioning them in front of the windscreen meant they didn't sit right upfront. Choosing the first option, I filled the gaps with styrene, putty, and super glue.

More problems showed up during canopy installation. Diverging from the instructions, I suggest working from back to front installing GP2, then support E6, and finally GP1.

The kit provides optional spinners and cannon barrels for the 20mm or 37mm guns used by the P-39, but the instructions don't indicate which parts to use — they just indicate the option. I used parts D9 and D21 for the 37mm cannon.

The kit includes a directional loop antenna used on some Soviet Airacobras, including a thick mounting plate molded under the fuselage. It takes careful sanding and rescribing to remove the plate for an American P-39.



Parts are provided for both in-wing .30-caliber and pod-mounted .50-caliber machine guns. But the instructions state that it should be one or the other, not both. Separate ammo access doors are supplied, but I'm not sure both would be present in each configuration. If you build the P-39Q, fill the leading-edge muzzle ports.

Significant gaps mar the wing roots. I believe the separate leading-edge intake inserts (parts A15 and A16) are too wide, so the wings don't fit flush. To avoid the problem, install the inserts after joining the wings and fuselage. Oddly, the kit omitted the pitot tube from the port wing.

Decals provide markings for five P-39s: two Soviet, and one each French, Italian, and American. I had to build the last, *Snooks 2nd*, flown by Medal of Honor recipient William Shomo. The plane was

named for the wife of the crew chief, Sgt. Ralph Winkel, a member of my IPMS chapter (and our resident P-39 expert!) Note: Apply personal markings only on the starboard side, not both sides as in the instructions. Missing is *Calif*, which should follow *Fresno* under the exhausts.

My primary reference was Bert Kinzey's *Detail & Scale Vol. 63: P-39 Airacobra* (Squadron/Signal, ISBN 978-1-888974-16-4). I also found *Bell P-39 Airacobra* by Artur Juszczak (Mushroom Model, ISBN 978-83-916327-9-6) useful.

I finished my P-39 in 45 hours. I had mixed feelings upon completion. Fit issues complicated the build, but I was pleased with the amount of detail. Kitty Hawk's *Airacobra* is not for beginners, but I recommend the kit to experienced modelers.

—Jim Zeske



Kit: No. 32013 **Scale:** 1/32
Manufacturer: Kitty Hawk,
www.kittyhawkmodel.com **Price:** \$99.99
Comments: Injection-molded plastic,
 310 parts (26 photo-etched), decals
Pros: Extensive interior detail; lots of
 options **Cons:** Troublesome fits; options
 cause confusion and extra work



HobbyBoss A-6E Intruder

It's hard to believe it has been almost 20 years since the U.S. Navy retired the Intruder. The twin-engine Grumman A-6 all-weather attacker carried out missions in Vietnam, Lebanon, Libya, Kuwait, Iraq, and Bosnia during a 34-year career.

HobbyBoss' detailed A-6E kit is packed

with features and options, including: possible canopy, radome, tail hook, ram air turbine (RAT), wingtip speed brakes, slats, flaps, rudder, and crew ladders. The wings can be modeled folded, and the intake and exhaust ducts extend to the engine fans. There's a nice selection of underwing stores: Mk.82 and Mk.117 bombs, two multiple-ejector racks, and three external fuel tanks.

Surface detail on the light gray plastic consists of engraved panel lines. A small photo-etched brass fret and white-metal landing gear inserts round out the parts.

Barring a couple of errors in the instructions and some fiddly assemblies, construction was straightforward.

The cockpit features two GRU-7 ejection seats with PE belts, controls, and detail for the canopy.

The first fit issue I ran into was the intakes; despite careful test-fitting and sanding, I ended up using filler on many of the seams. The exhausts are awkward with strange bends, but it's difficult to see into them on the finished model.

HobbyBoss shows details inside the speed-brake bays on the fuselage, but according to my research those brakes weren't used on the A-6E TRAM.

The nose radar comprises almost 20 parts and looks terrific. Displaying it means leaving the radome open, which doesn't leave much room to hide the considerable weight (not mentioned in the instructions) required to keep the nose down.

The parts to build the flaps down are mislabeled: M12 and M11 should be M25 and M26.

I love HobbyBoss' approach to the landing gear: a metal strut clad with plastic details. The nose gear alone consists of 14 parts.

Decals provide markings for two Intruders, one in two-tone desert brown over gray, the other in low-viz gray. I chose the latter, painting it with decanted Tamiya spray paints. The instructions don't show it, but I painted inner flap and slat surfaces red as seen in photos.

The decals looked glossy on paper, but dried with a nice, flat finish. The thin markings conformed to recessed details without decal setting solutions.

I enjoyed building HobbyBoss' A-6E TRAM, and the detail trumps all previous 1/48 scale Intruders. However, because of the kit's complexity, I recommend it to modelers with some experience.

—Jon Hergenrother



Kit: No. 81710 **Scale:** 1/48

Manufacturer: HobbyBoss,
www.hobbyboss.com **Price:** \$94.99

Comments: Injection-molded plastic, 632 parts (35 photo-etched, 3 white metal), decals **Pros:** Beautiful surface detail; good options; impressive clear parts **Cons:** Vague painting instructions; fiddly intake assemblies; no mention of nose weight in instructions

ModelCollect E-75 heavy tank

Proposed in 1942 and accepted in 1943, the E series of tanks was Germany's attempt to standardize armor production. Six different chassis weight classes were proposed and used many standardized parts to simplify manufacturing and maintenance. Although the series never entered production, several types had reached the prototype stage by the end of World War II.

One in this series was the E-75, weighing 75-100 tons on a chassis similar to the Tiger II but with a revised suspension.

ModelCollect's 1/72 scale E-75 with a 128mm gun is available in two versions. The basic kit includes a beautiful turned-brass barrel with a finely perforated muzzle brake and photo-etched engine screens, periscope covers, and turret lift rings.

The ultra kit — the subject of this review — has all of that plus another PE fret with replacement fenders, grab handles for the hatches and turret sides, and spare track hooks.

Typical of many models in this scale, tools and tow cables are molded on the hull. One-piece vinyl tracks can be joined with regular plastic cement.

Starting with the turret, the main-gun mount is loose and will not support the barrel in any raised position. Fortunately, the gun is level in the lowest position.

To form the half-round lift rings, I bent the PE parts over thin brass tube.

Fine moldings mark the position to hang spare track links on the turret. These

can either be fitted with injection-molded links or PE hooks.

You're on your own when it comes to positioning the grab handles/steps on the turret. I sketched the locations with a pencil, then impressed marks at the spots with dividers. I drilled shallow holes to give the super glue something to grab and anchor the handles. PE replaces solid plastic handles on all of the hatches except the loader's.

Using a fine razor saw, I carefully removed the fenders from the upper hull in preparation for PE parts. I suggest referring to parts PE-14 and PE-12 when cutting off forward fenders. I took a little too much off the front plate and had to fill gaps with square styrene pieces. Folding the PE skirts is easy and doesn't require any special tools.

The screens on the rear deck fit well.

The kit offers no help to align the suspension. I did my best to center the axles (parts C14 and C15) on each suspension unit (C13). I added the rear plate but left the running gear off until after painting.

The E-75 never existed, so you're free to paint the model any way you want, from basic red primer to what-if camouflage. I stuck with a basic late-war three-color scheme similar to the kit's painting diagram.

The decals went down well over a coat of Vallejo clear gloss with help from Microscale decal solutions. I slit the turret numbers to fit them over the grab handles.

I found the tracks the most difficult part of the build. The attachments for the road

wheels and idlers were weak, so I reinforced them with super glue. The drive sprockets' teeth don't match the holes in the tracks. So I removed the teeth on the mating surfaces.

The tracks were too long, so I removed two links from each side. I super glued the tracks to the road wheels, idlers, and drive sprockets, inserting wood spacers to set sag while the glue dried.

I spent about 12 hours building the E-75, and it's a nice replica of a tank that never was. If you are interested in "paper panzers," I highly recommend you add this kit to your collection.

— John Plzak



Kit: No. UA72029 **Scale:** 1/72
Manufacturer: ModelCollect, www.modelcollect.com **Price:** \$29.99
Comments: Injection-molded, 171 parts (67 photo-etched, 2 vinyl), decals
Pros: Turned-brass barrel; photo-etch parts fit well **Cons:** Tools and tow cables molded on; one-piece tracks; weak idler attachments





Roden Bristol 175 Britannia

Crews affectionately called the Britannia (and its Canadian cousin, the CL-44) “The Whispering Giant.” Roden has done Bristol’s airliner proud. Featuring engraved detail, the kit’s gray parts look good generally, but molding consistency is a stumbling block.

Panel lines start strong but fade in some places, and some are just too faint. On the other hand, the control-surface hinge lines

are deep and sharp. Gear struts are terrific, but only the wheels’ outboard sides have much detail. The nose wheels’ axle holes are way bigger than the axles on the strut.

There are no wheel wells, just shallow sockets for the gear struts. There’s also no flight deck, although the small cockpit windows would allow little interior detail to be visible anyway. I don’t think either omission detracts from the finished model. Typical of many small-scale kits, details like antennas and pitot tubes benefit from delicate sanding.

Nice clear parts include cabin windows to be glued into the fuselage halves before joining them. I left these out because the cheat line’s clear decal carrier film makes excellent “glass” instead of tedious masking.

Construction proceeded without problems.

The long fuselage includes only two locating pins, one at the nose and the other in the vertical tail. To reinforce the structure and aid alignment, I glued small scrap-plastic interlocking tabs along the seam before joining the fuselage halves.

I built the fuselage and the wings separately for easier access to the nacelles and cowls to rescribe panel lines lost during blending and sanding. Once joined, the model was really sturdy.

I had issues with the props. They attach to the sprues between the blades, leaving little room to clean up the spinners. Worse, filler was needed to smooth a gap between the front and rear parts of the spinners with little room to work. Next time, I’ll separate the blades, clean up the spinners, and then reinstall the blade in drilled holes. It’s not in the instructions, but Britannia prop blades had short de-icers. I added them using strips of black decal film.

Painting and decaling a model brings it to life. It’s my favorite aspect of the hobby — unless things go wrong. Decals provided the livery for a single BOAC aircraft. Unfortunately, the thick, brittle decals didn’t conform to surface detail and needed extensive slicing and touch-up. Setting solution didn’t prevent extensive silvering. Slicing the decals along panel lines, or even just touching them with a brush, caused flaking. Fortunately Blue Angel blue (FS15050) matches the livery pretty well.

I liked the model and, other than a couple of things, it wasn’t a difficult build. I spent 30 hours on it, more than usual for an airliner. A lot of that time went to cleaning up the props. The frustrating decals let the kit down, but there are a lot of aftermarket options.

— Walt Fink



Kit: No. 312 **Scale:** 1/144

Manufacturer: Roden, www.roden.eu

Price: \$34 **Comments:** Injection-molded, 70 parts, decals **Pros:** Accurate outline and scale; knife-sharp trailing edges **Cons:** Stubborn decals; inconsistencies in detail

Kitty Hawk OV-10A/C Bronco

Odd looking but capable, the North American OV-10 has been used by the U.S. military as a counter-insurgency and forward air control aircraft. Kitty Hawk is the first company to produce the Bronco in 1/32 scale.

Sprue and parts breakdown was fairly logical, making assembly easier. And there are options — a lot of options: two Mk.82 500-pound bombs; two Mk.82 500-pound Snakeyes; two AIM-9B Sidewinder missiles; two AIM 9L Sidewinders; two 2.75" rocket tubes; two 5" Zuni rocket tubes; two 130-liter fuel tanks; and a 260-liter fuel tank.

You also get two complete engines (I used only one), and the sponsons come with two complete M60 machine-gun bays (I left only one open).

Typical of Kitty Hawk kits, you get a nice instruction booklet with color profiles covering all six sets of markings provided. I chose the "Air Force Euro I" scheme.

Construction starts with the cockpit. Decals are provided for both instrument panels, but the panels have extremely good molded detail. So, I hand-painted them.

Step 3 brings the cockpit and nose-gear bay together. The bay and nose-gear strut are specified as FS36622 gray, but everything in there — as well as the main gear bays and gear and the inside of all gear doors — should be gloss white.

A kit-supplied 1.15-ounce weight goes under the rear-seat compartment, but it's not nearly enough. You'll have to add an additional 1.3 ounces (2.45 total). Good luck figuring out where to put it. I used my trusty little punched-steel discs (emptied

from an old pair of ankle weights years ago).

The fuselage halves and the cockpit/nose gear assemblies come together in Step 4. If you're going to add weight, do it before joining the fuselage halves; mount the cockpit assembly in a fuselage half and determine where to add weight. Otherwise, just prop up the tail.

In Step 6, don't install any cockpit components until later; it makes painting easier.

The fuselage gun sponsons are assembled in steps 7 and 8. You get complete bays, including ammo cans and feed chutes.

In Step 8, the cargo bay door comes with a bulkhead that has a few radio faces. I discarded that and just closed the door.

The kit provides some nice little engines; I assembled one and closed the other cowl-ing. (If you close the cowlings you'll have to trim the molded hinges.) Leave that assembly off until after painting. By the way, color instructions are to paint the engine light blue; I am not sure about that.

The landing-gear boom and wing assemblies all went together without a hitch.

I didn't use the photo-etched spoilers provided for the wings. These were deployed in conjunction with the ailerons to improve maneuverability and roll rate, but I didn't see them deployed (except for maintenance) in any of the pictures I had.

Step 26 brings wings, booms, and stabilizers together, and everything lined up pretty well — no gaps and pretty solid assembly. It was actually kind of surprising; twin-boom aircraft (like the P-38 and P-61) usually have alignment issues. None here.



Kit: No. KH32004 **Scale:** 1/32

Manufacturer: Kitty Hawk,
www.kittyhawkmodel.com **Price:** \$99.99

Comments: Injection-molded, 475 parts (34 photo-etched, 1.15-ounce metal weight), decals **Pros:** Good fits (generally); numerous options **Cons:** Errors in color callouts; troublesome clear parts; insufficient nose weight

I chose the Euro I scheme marked for the 20th Tactical Air Support Squadron at Shaw Air Force Base in South Carolina.

The decals went down well. After they dry you can install all the little pieces and canopy glass.

I ran into a few problems with the canopy. I think Kitty Hawk engineered it to be displayed wide open (both sides). I decided to close the port side, but it threw off the fit a little. The side panels have molded lips that I assume hook onto the top panel. I had to trim them off for a better fit; on the open side, no problem. My fault.

Oh well. It took me 44 hours to complete, not bad for a 1/32 scale plane. A little experience helps.

— Larry Schramm



Airfix Jet Engine

Jet engines have always intrigued me. From the early days of Frank Whittle and Pabst von Ohain, through the Me 262 and modern airliners like the Airbus A380, these powerplants have been technological wonders in my eyes.

About a year ago I saw that Airfix planned to release a working jet engine. I was giddy to see the kit had lights, sounds, and a throttle!

The parts are molded in colors that represent the kits' parts and are sealed in their own bags. No gluing — everything either presses or screws together — or painting is required. However, I painted some parts to make them look less like plastic.

The only tools required are a pair of scissors and a hair dryer. A screwdriver is provided for the screws in the kit.

The instructions are photos, not drawings, of the parts and steps; black and white, no color.

All electrical parts are preassembled, so you don't need to be an electrician. The only confusing step is where the instructions show and describe how to twist the wires together and finish with heat-shrink (provided). Instructions show a black and red wire being put together. Do not do this or your engine won't work! It's simple: All black wires go together, all red wires go together. There are three of each. The instructions simply show how to join the wires and heat-shrink them.

Also be wary of the screws. There are a



Kit: No. A20005 **Scale:** N/A

Manufacturer: Airfix, www.airfix.com

Price: \$59.99 **Comments:** Injection-molded, 52 parts (electric motor, screws), decals **Pros:** Operating features; easy construction **Cons:** Motor not powerful enough to turn blades without help; spins in the wrong direction

few different types provided, so pay close attention to the instructions.

All of the fan, compressor, and turbine blades are molded in silver plastic. According to the instructions, you do not have to paint these. But to eliminate the swirl marks common in silver plastic, I painted these parts with different combinations of paints I had lying around. I also chose to sand and smooth the leading edges of the fan blades, which are blunt edges so you don't have to worry about cutting your finger off when the blades are turning.

The only other concern, which entails sandwiching the whole compressor assembly in the clear shroud, is making sure the assembly spins freely. It took me some time to figure it out, but the easiest way to explain it is as follows:

Make sure the two bushings that the whole assembly rotates on are free of any of the compressor or turbine blades. It may

take some fiddling around. The spool assembly spins via a blower motor blowing on the fan blades. The motor doesn't provide enough power if the assembly doesn't spin freely. Four C batteries (not provided) power the display.

This kit is one of two under the Airfix Engineer collection. Airfix also makes an in-line four-cylinder automobile engine, a fun kit and a change of pace as well.

For the truest, it's not a fully detailed model. There are no stator blades, accessory drive, oil cooler, planetary gearing, etc. The combustion chambers are mimicked by two red LEDs. However it is decent representation of a working model. It won't blow the papers off your desk, but it will annoy co-workers in the cubicles next to you. It also would be a great school project for kids. Finally, it's quite large: 12" long and 11" high.

— Caleb Horn

SIGN UP FOR OUR **FREE** E-MAIL NEWSLETTER

FineScale
Modeler
MAGAZINE

Get valuable twice-monthly updates from the world of scale modeling!

- **Highlights from *FineScale Modeler***

Find out what's in the current issue and preview forthcoming issues.

- **Online Extras**

Learn about stories and photos exclusive to our website.

- **Hot Forum Topics**

Discover what people are talking about on the *FineScale* Forum.

- **Special Offers**

Register for sweepstakes and take advantage of special offers on subscriptions to *FineScale Modeler*.



Sign up for **FREE** today!

www.FineScale.com/newsletter

Rest assured, your e-mail address is safe with us. We won't sell it, give it away, or otherwise violate your privacy.

P18670

Take *FineScale Modeler* ANYWHERE



The same how-to techniques, kit reviews, tips from the experts, and inspiring photos found in the print version of *FineScale Modeler* are available in convenient digital format.

DIGITAL BENEFITS INCLUDE:

Link to online content

Search by keyword of topic

Zoom in to view photo details

Bookmark pages for fast access

Powered by Zinio™, digital editions are available on multiple platforms: Android™; iPad® and iPhone®; Windows 7 and 8; BlackBerry®, and Web OS.

Zinio is a registered trademark of Zinio, LLC. Android is a trademark of Google Inc. iPad and iPhone are trademarks of Apple Inc., registered in the United States and other countries. Windows is a registered trademark of Microsoft Corporation in the United States and other countries. The trademark BlackBerry is owned by Research In Motion Limited and is registered in the United States and may be pending or registered in other countries. Kalmbach Publishing Co. is not endorsed, sponsored, affiliated with or otherwise authorized by Research In Motion Limited.

Get *FineScale Modeler* in digital format today!

www.FineScale.com/digitaleditions

P20858

Rare Kits?

- 4000+ kits in stock
- online inventory
- we buy kit collections

www.oldmodelkits.com

BEAVER MODEL

Order an authentic 1/24 scale replica DeHavilland Beaver Floatplane. The bright yellow model with 24" wing span has 26 snap together pieces.

Send \$29.95 via check or money order (US funds) to: Cedar Creek Trading Post, PO Box 438 Dept. #200 Cedarburg, WI 53012 • Email: cctbeaver@yahoo.com
Orders outside continental US add \$7 for shipping

HOP ON OVER FOR A GREAT DEAL!

Visit our new website!

REDFROG

hobbies.com
www.redfroghobbies.com
Specialists in all high quality hobby products. We Ship Worldwide

STRIKE FORCE HOBBIES

YOUR ONE STOP HOBBY SHOP
Large selection of kits, supplies and more!
North America Dealer for Ultimate Modelling Products
NEW ITEMS ADDED DAILY
www.strikeforcehobbies.com

TOTALNAVY.COM

ALL SHIPS, ALL NAVIES, ALL KINDS
(718) 471-5464
www.TotalNavy.com

COLPAR'S HobbyTown USA

PLANES • ARMOR • CARS • SHIPS • SCI-FI
We carry a huge inventory of plastic model kits from around the world! Full Line of Detailing Accessories. Airline models, Decals, Books, Promos, Die Cast Collectibles, Historical & RPG Games & Miniatures, Airbrushes & parts. Large Paint and Tool inventory. Full line R/C department. We ship worldwide.
www.colpar.com
COLPAR'S HobbyTown USA To order call: 1-800-876-0414
1915 S. Havana St. For information: 303-341-0414
Aurora, Co 80014

WE CARRY THE BEST

from A-Model to Zvezda
and 50,000 items in between!

Find it with our easy-to-use search engine

ROLL MODELS Cool Stuff @ Great Prices! 763-545-0399
www.rollmodels.com

FANTASTIC PLASTIC

Unique Resin Kits for Experienced Modelers

Visit the Virtual Museum Store
www.fantastic-plastic.com
Concept Aircraft • Spacecraft • Sci-Fi • Luft '46

Dean's

Specializing in hard-to-find & OOP kits.

We have over 8000 kits in stock from old Aurora to new releases. Please contact us for a FREE catalog. *Please specify cars or military.* Check with me before you sell.

We Buy Collections!

116 N. Washington Street • Owosso, MI 48867
(989) 720-2137 • Fax: (989) 720-0937
www.deanshobbystop.com
dean@deanshobbystop.com

HIGH QUALITY PUNCH & DIE SETS AND PHOTO ETCHED BENDERS & MORE...

RP TOOLZ

Metro Trains & Hobbies, LLC
(239) 332-0422
metrotrainsandhobbies.com

Cleared for takeoff!

Subscribe to *FineScale Modeler* today!

In each issue you'll find:

- Clear, how-to features on model assembly and finishing written by experts
- Reviews of the hottest model kits and products
- Tips and techniques for assembling, painting, and finishing
- Inspiring photos of readers' models

www.FineScale.com

Classified Marketplace

This section is open to anyone who wants to sell or buy scale modeling merchandise. FSM reserves the right to edit undesirable copy or refuse listing. For FSM's private records, please furnish: a telephone number and a street address.

All Copy: Set in standard format. First several words only set in bold face. If possible, ads should be sent typewritten and categorized to ensure accuracy.

Coming Events Rate: \$35 per issue (55 word maximum). Ads will contain the following information about the event: state, city, sponsoring organization and name of event, meet, auction or show, dates, location, times, admission fee, name and/or telephone number and/or email of person to contact for information. Name, daytime telephone number and street address of the person providing the information is also required but need not be included in the ad. Unless otherwise requested, ads will be published in the issue month that the event occurs in. Additional months are available at the \$35 per issue fee. Please specify issue date(s).

Word Ad Rates: 1 insertion - \$1.13 per word, 5 insertions - \$1.08 per word, 10 insertions - 99¢ per word. \$20 minimum per issue. Count all initials, single numbers, street number or name, city, state, zip, phone numbers each as one word. Payment must accompany the ad.

To receive the discount you must order and prepay for all ads at one time. We accept Visa, Mastercard, American Express and Discover.

Send Your Ads To: *FineScale Modeler* - Classified Marketplace, 21027 Crossroads Circle, P.O. Box 1612, Waukesha, WI 53187-1612. Phone toll-free: 1-888-558-1544, Ext. 815, or fax: 262-796-0126. E-mail: onlineclasses@kalmbach.com

Closing Dates:

Published 10 times a year. Jan. 2016 issue closes Oct. 13, Feb. closes Nov. 2, Mar. closes Dec. 9, April closes Jan. 11, May closes Feb. 16, July closes April 18, Sep. closes June 13, Oct. closes July 13, Nov. closes Aug. 15, Dec. closes Sept. 12.

COMING EVENTS

CA, CAMARRILLO Modelfest 2016. Sunday, February 28, 2016 from 8:30am - 3:00pm. Plastic model contest and swap meet to be held at the Commemorative Air Force hangar/Southern California Wing, 455 Aviation Drive. Admission \$10 per person. For more information contact Vernon Morseman or Stuart Mackie at 805-658-8138

GA, MARIETTA: 2016 AtlantaCon, Region 3 Regional Model Show. Lockheed Martin Local Lodge, 709 Union Hall, 1032 South Marietta Parkway. Saturday, March 19, 2016, 9:00am-5:00pm. Admission \$5.00/person, 12 and under free. \$10.00 unlimited model entries. For more information go to <http://ipms-atlanta.org> or contact Bill Johnston at 678-308-7308 or bjnga1952@gmail.com

OH, WRIGHT-PATTERSON AFB. IPMS Region 4 2016 Convention hosted by Wright Field Scale Modelers. Hope Hotel and Conference Center. April 8-9, 2016. New this year: Open Style "Gold/Silver/Bronze" Judging. Minutes from National Museum of US Air Force; Vendor Area, Raffle and more. Full details at www.wrightcon.com Contact: Dave Koukol, dave.koukol@ipmsdayton.com or 937-602-4033.

FOR SALE

CANOPY MASKING AND MORE!

WWW.EZMASKS.COM List \$3.00. Chris Loney, 75 Golf Club Rd., Smiths Falls, ON, Canada K7A 4S5. 613-283-5206, ezmasks@gmail.com

SHIP AND AIRCRAFT MODELS. Built for display. For additional information contact, Ray Guinta, PO Box 74, Leonia, NJ 07605. www.rayguinta.com

THOUSANDS OF MODEL KITS for sale. All types from Old Aurora to new releases. Send a 70¢ SASE to: Dean Sills, 116 N. Washington, Owosso, MI 48867. Specify Military List. Phone: 989-720-2137. Fax: 989-720-0937. E-mail: dean@deanshobbystop.com

WANTED

A BIG BUYER OF AIRCRAFT, Armor, Sci-Fi, Resin, Hybrid or Plastic kits. We buy collections whether they are small or large- Worldwide as well. Call Don Black toll free 1-866-462-7277. Don Black, 119 Bernhurst Road, New Bern, NC 28560. E-mail don@donblack.com

AIRCRAFT, ARMOR, SCI-FI, FIGURES, AUTO, ETC. Buying kit collections, large or small, worldwide. Top prices paid. Call Jim Banko 610-814-2784 or mail list to 122 Independence Ct., Bethlehem, PA 18020, fax 610-439-4141. E-mail: cth1@prodigy.net

I WANT TO BUY YOUR UNBUILT MODEL KITS. Any size collection. Dean Sills, 116 N. Washington St. Owosso, MI 48867. 989-720-2137. Fax: 989-720-0937. E-mail: dean@deanshobbystop.com

MODEL CAR AND TRUCK KITS. Unbuilt or built. Any size collection. Good prices paid. Please contact: Fred Sterns, 48 Standish, Buffalo, NY 14216. Phone: 716-838-6797. Fax: 716-836-6057. E-mail: fsterns@aol.com

YOU WILL NEVER FIND TIME TO BUILD ALL THOSE MODELS. Unbuilt kits, diecast aircraft, military books. Milam Models, 519 DiLorenzo Dr., Naperville, IL 60565, Phone: 630-983-1407, jetpilotpaul@aol.com

MISCELLANEOUS

1ST AND ABSOLUTELY THE BEST MUSEUM-QUALITY MODELS. IPMS Nationals winner building aircraft and armor to your specification, including conversions and scratchbuilt. Call BC Models for quote and information at 913-385-9594 or visit www.bcmmodels.com

FINESCALE MODELER AUTHOR and IPMS medalist will build your favorite aircraft, specializing in metal finishes. Contact John Adelman at 563-556-7641 or jjadelmann@yahoo.com

Local Hobby Shop Directory

Local Hobby Shop Directory listings are available for the next ten issues for \$275 (payable in advance) or at \$37 per issue (billed to established accounts for a minimum of ten insertions). Ads will be set in standard listing typography. All insertions must be consecutive and may be invoiced if you have credit established with us. No mention of mail order business permitted. For information call 1-888-558-1544, ext. 815. Closing dates listed in Classifieds section.

ALASKA • Anchorage
www.anchoragehouseofhobbies.com
Alaska's best hobby supplier since 1964.
Two stories, 6,300sf, 1st floor all R/C,
2nd floor general hobbies, plastics, trains,
slot cars, telescopes & more!
ANCHORAGE HOUSE OF HOBBIES
2803 Spennard Rd. 907-277-7778

ARKANSAS • Jacksonville
Headquarters for scale hobbies. Models;
N-HO-O trains; gaming; tools; paints, etc.
Discounts & special orders.
Open 10-6, closed Sundays and Wednesdays
www.railandspruehobbies.com
RAIL & SPRUE HOBBIES
1200 John Harden Dr. 501-982-6836

CALIFORNIA • Burbank
Large selection of plastic kits, paints, and
supplies. Special orders no problem
Visit us in person or online
www.houseofhobbies.com
Secure online ordering
BURBANK'S HOUSE OF HOBBIES
911 S. Victory Blvd. 818-848-3674

CALIFORNIA • Canoga Park
Kits, plastic & wood, slot cars & toys. Rockets,
paint, glue and tools. Trains from Z to O.
Mon-Tues 10-5, Wed-Fri 10-7, Sat 10-5,
closed Sun & Big Holidays.
www.scalemodelstuff.com
SCALE MODEL STUFF
7259 Canoga Avenue 818-716-7847

CALIFORNIA • Garden Grove
Rewards program for 10% back on purchases.
Plastic aircraft, armor, ships, cars, decals,
books, paints, tools, miniatures war-games,
Mon-Thur 11-8, Fri 11-midnight, Sat 10-mid-
night, Sun 11-7 www.brookhursthobbies.com
BROOKHURST HOBBIES
12188 Brookhurst St. 714-636-3580

CALIFORNIA • Hollister
Model planes, car, ships & figures. Model train
scales: Z, N, HO, O & G. Paints, tools, R/C &
parts, incl. service, Craft & educational kits,
supplies, products. Clinics available, Tu-Sat 11-
6; Sun 12-4. www.debbiebartunek@mac.com
B.C.T. HOBBY & CRAFTS
201-C McCray St. 831-635-0537

CALIFORNIA • La Mirada
Wide variety of plastic kits,
Old Nascar Kits - please call.
Mon - Sat 10-6. Closed Sunday.
R HOBBIES
14269 Imperial Hwy. 562-777-9492

CALIFORNIA • Orange
New Products, Old Kits & Great Service!
Everything you need to build plastic models
Armor, Aircraft, Ships, Cars, Sci-Fi and more.
M-F 10:30-6pm, Sat 10:30-5pm, Sun 12-5pm
www.militaryhobbiesonline.com
MILITARY HOBBIES
830 E. Lincoln Ave. 714-637-1211

CALIFORNIA • San Mateo
Your source for plastic models, die cast and all
supplies needed to finish your latest model.
Mon-Sat 9:30-6, Sun 11-5.
www.talbotstoyland.com
TALBOT'S HOBBIES
445 South "B" Street 650-342-0126

COLORADO • Aurora
Large inventory of models from the
world over! Detailing accessories, research
publications, games, trains, R/C, tools, and
supplies. Easy access from D.I.A.
http://www.colpar.com
COLPAR HOBBIES
1915 S. Havana St. 800-876-0414

CONNECTICUT • Cos Cob
Planes, tanks, cars, ships, rockets, plastic and
wood kits. Trains. Authorized Lionel dealer &
repair. Die-cast, RC, slot cars, structural and
diorama supplier. Special orders welcome.
ANN'S HOBBY CENTER
405 E. Putnam Avenue 203-869-0969

CONNECTICUT • Manchester
Largest hobby shop in NE. Military, cars,
trucks, plastic models, diecast cars, trucks.
Planes, RC planes, cars, trucks, slot cars,
rockets, Breyer, Detailing supplies, games!
Mon-Wed 10-6 Th-Fri 10-9 Sat-Sun 10-6
TIME MACHINE HOBBY
71 Hilliard St. 860-646-0610

CONNECTICUT • Milford
Extensive selection of armor kits & Verlinden
accessories. Military, auto & aircraft plastic
models. Photo-etched parts. O gauge train
sets. Open Tues - Sat 11-6, Sun 12-5.
www.HQhobbies.com
HQ HOBBIES
394 New Haven Ave., Unit 1 203-882-1979

FLORIDA • Ft. Myers
Come visit our new store!
Plastic modeling kits.
Paint, tools, scenery, accessories,
& scale model railroads.
Mon - Sat 10:00am-6:00pm. Closed Sun.
METRO TRAINS & HOBBIES
12951 Metro Parkway 239-332-0422

GEORGIA • Blue Ridge
Huge selection of model kits & accessories.
Ships, Armor, Aircraft, Figures, Cars and more.
Visit: www.freetimehobbies.com
for complete listing.
Monday to Friday 10-5, Saturday 10-2
FREE TIME HOBBIES
47 Dunbarton Farm Rd. 706-946-1120

HAWAII • Kailua, Oahu
Wide selection of plastic model kits, paint,
books, magazines and tools.
Located on the beautiful windward side, a
scenic 20 minute drive from Honolulu.
Mon - Fri 10-6, Sat 10-5, Sun 11-2
WELLER'S HOBBYCRAFT
767 Kailua Road 808-262-0211

Say you saw their
directory ad in
FineScale Modeler.

MASSACHUSETTS • Malden (Boston)
Largest store in area, easy access via I-93,
Rt. 1, and the T. Complete line of
model kits & supplies, plus toy soldiers,
figure kits, games, etc. Shipping available.
Info: hobbybunker.com
HOBBY BUNKER, INC.
33 Exchange St. 781-321-8855

MASSACHUSETTS • Marlboro
Stop in ONCE! A customer for LIFE!
We have 10,000+ models, tools, supplies, 23
paint lines, 50 model mags, 5,000+ books.
Est. in 1973, open 7 days, Th & Fr 'til 8.
Visit us @ www.sparetimeshop.com
THE SPARE TIME SHOP
Rt 20E Main, Post Rd. Plaza 508-481-5786

MASSACHUSETTS • Norton
6,000 model kits, old and new: Autos, armor,
planes & sci-fi. Reference books & supplies.
Open 7 Th 11-7, F 11-8, Sa 10-5, Rt. 495 to
'Rt. 123E, behind Dunkin' Donuts. www.
mymummy.com E: mummy@mymummy.com
HARRY'S HOBBIES & COLLECTABLES
250 E. Main St., Rt 123 508-285-8080

MICHIGAN • Owosso
We moved! Thousands of model kits from old
Aurora to new releases. Mon 4pm-7pm,
Tues - Fri 11:30am-5pm, Sat 11:30am-4:00pm
E-mail: dean@deanshobbystop.com
DEAN'S HOBBY STOP
116 N. Washington Street 989-720-2137

MICHIGAN • Royal Oak (Metro Detroit)
New & Old Toy Soldiers, Historical Miniatures,
Models and Figure Kits from Around the
World. Our famous selection of hobby supplies
includes scenics, paints, reference and more.
www.michtoy.com
MICHIGAN TOY SOLDIER & FIGURE CO.
1400 E. 11 Mile Rd. 248-586-1022

MICHIGAN • Traverse City
Let your imagination run wild!
Aircraft, ships, cars, armor, special orders,
diecast cars, model railroading Z to G
and more...
TRAINS & THINGS HOBBIES
210 East Front St. 231-947-1353

MICHIGAN • Ypsilanti-Metro Detroit
Your single stop model building shop.
Michigan's largest selection of new and vintage
kits in all genres plus everything needed
to build them. Wed - Sat 11-8, Sun 12-5
Visit us on Facebook. www.modelcave.com
MODELCAVE
103 W. Michigan Avenue 734-316-2281

NEVADA • Las Vegas
While in Las Vegas, come see our wide
selection of models and detail accessories.
Less than 5 miles off the Las Vegas strip
Hours Mon-Fri 10-7, Sat 10-6, Sun noon-5.
HOBBYTOWN USA
4590 W Sahara Ave Ste 103 702-889-9554

NEW HAMPSHIRE • Dover
Best plastic, resin & balsa kits from around the
world. Scratch building & diorama supplies,
reference books, large paint selection
including Humbrol, Citadel & Testors
ELITE HOBBIES
#334 90 Washington St. 603-749-0800

NEW JERSEY • Kenil
Full service hobbies, a full line of
HO, N, 3-Rail, military, cars, boats,
planes, dollhouses, scratchbuilding
supplies, plus details-details-details!
KENIL HOBBIES
590 Rt. 46 973-584-1188

NEW JERSEY • Magnolia (Camden)
Huge foreign & domestic model selection
all scales. Automobiles, aircraft ship, books,
wargames, scenery, diorama
supplies, parts, tools. Open 7 days
AAA HOBBIES & CRAFTS
706 N. White Horse Pike 856-435-7645

NEW YORK • Buffalo
WNY's largest selection of models!!!
We specialize in models. New, old, rare and
vintage. Tons of detail and weathering
products, paint, tools and so much more!
SECTION 8 HOBBIES
2243 Seneca St. 716-824-1049

NEW YORK • Middle Island
Excellent selection of lead miniatures-
historical and fantasy. Plastic models,
wargames & modeling supplies.
Books and magazines.
MEN AT ARMS HOBBIES, INC.
134 Middle Country Rd. 631-924-0583

NEW YORK • Upr Eastside GR Manhattan
Visit our in-house Aircraft Model Museum.
Foreign and domestic plastic and wood kits.
Open 7 days.
JAN'S HOBBY SHOP, INC.
1435 Lexington Ave. 212-987-4765

OHIO • Columbus
Great selection of model kits, accessories,
detail parts, magazines, tools & paints.
www.hobbylandstores.com
HOBBYLAND
206 Graceland Blvd. 614-888-7500

OKLAHOMA • Owasso
Oklahoma's largest plastic kit, paint and after-
market inventory. Planes, cars, trucks, armor,
ships, trains and sci-fi. Special orders
welcome! Mon - Fri 10-6, Sat 10-5, Sun 1-6
Web site: www.topshelfmodelsllc.com
TOP SHELF MODELS
119 S. Main St. 918-274-0433

OREGON • Beaverton
Complete full line hobby shop.
Z, N, HO, O, Lionel, and LGB.
Open Mon-Fri 10-8, Sat 10-5, Sun 12-5.
TAMMIES HOBBIES
12024 SW Canyon Rd. 503-644-4535

PENNSYLVANIA • Landisville (Lancaster)
Large Selection New & Used Kits
Military books, tools, paint, airbrushes
Full line hobby shop open Tue - Thur 10-6,
Fri 10-7, Sat 10-4 www.CoolTrains.com
COOL TRAINS TOYS & HOBBIES
106 W. Main Street 717-898-7119

TENNESSEE • Knoxville
Tennessee's largest plastic model
selection, 8,000 sq. ft. of hobbies & toys.
Located in Knoxville's premier shopping
destination, Turkey Creek Area.
Open 7 days a week.
HOBBYTOWN USA
11145 Turkey Dr. 865-675-1975

TEXAS • Houston
HO & N, Lionel trains.
Complete line of plastic kits, military
and architecture supplies.
Open 11am-6pm M-F, Sat. 10am-5pm
www.gandmodelshop.com
G & G MODEL SHOP
2522 Times Blvd. 713-529-7752

TEXAS • Irving (Dallas Area)
Imported & Domestic Aviation Books &
Plastic Kits. Paint, Decals, HO, N trains, R/C,
U/C airplanes.
Mon 1-6, Tue-Wed 12-6, Thur-Fri 10:30-7.
Sat 10:30-6. www.malhoobby.com
M-A-L HOBBY SHOP
108 S. Lee Street 972-438-9233

TEXAS • San Antonio
Scale modeling from beginner to expert.
A wide selection of aircraft, armor, autos,
figures, ships, & sci-fi. Lots of reference
material, detail parts, decals, tools, & eight
lines of paint. Open Tues-Sat 10-6pm.
DIBBLE'S HOBBIES
1029 Donaldson Ave. 210-735-7721

VIRGINIA • Chantilly
Minutes from Dulles Airport & New Dulles
Air & Space Museum, Uday-Hazy Center.
PLASTIC! PLASTIC! PLASTIC!
Kits for aircraft - armor - ships - cars
Daily 12-8; Sun 12-5. www.piperhobby.com
PIPER HOBBY
13892 Metrotech Dr. 703-803-3103

VIRGINIA • Newport News
Plastic model specialty shop.
New and old kits, foreign, domestic,
books, paints and other accessories.
We also buy collections.
www.dhinc.com dhc@dhinc.com
DENBIGH HOBBY CENTER, INC.
14351 Warwick Blvd. 757-874-5708

WASHINGTON • Seattle
Plastic Model Specialists. Large selection of
rare & out-of-production models.
Large selection of detail parts. Largest
selection of plastic models in South Seattle!
www.skywaymodel.com
SKYWAY MODEL SHOP
12615 Renton Ave. South 206-772-1211

CANADA-AB • Calgary
Specializing in R/C models and accessories,
helicopters, planes, cars, trucks, boats,
plastic, die-cast & model rockets.
M T W F 9:30-6, Th 9:30-8 Sat. 9:30-5
www.modelland.com info@modelland.com
MODEL LAND LTD
3409A 26 Ave. SW 403-249-1661

CANADA-ON • Ottawa (Vanier)
One of Canada's leading model shops.
Complete line of military & aircraft kits,
decals, paints and accessories.
Free parking. On Parle Francais.
HOBBY HOUSE, LTD
80 Montreal Rd. 613-749-5245

CANADA-ON • Toronto
Large selection of new & out-of-production
kits. Accessories & finishing products.
Serving the hobbies since 1986. We buy kit
collections. www.wheelswingshobbies.com
WHEELS AND WINGS
1880 Danforth Ave. 416-752-0071

SINGAPORE • Singapore
Old kits & latest releases. Good selection of
unusual model kits & accessories. We stock
electric trains & slot cars. Open 7 days.
1pm-8pm. In the Katong Shopping Centre.
www.hobbybounties.com
HOBBY BOUNTIES & MORGAN HOBBYCRAFT
865 Mountbatten Rd #02-91/92 65-6440-1890

Ad Index

We believe that our readers are as important as our advertisers. If you do not receive your merchandise or a reply from an advertiser within a reasonable period, please contact us. Provide details about what you ordered and the amount you paid. If no action is obtained after we forward your complaint to the advertiser, we will not accept further advertising from them. *FineScale Modeler* magazine, 21027 Crossroads Circle, Waukesha, WI 53187. The Advertiser Index is provided as a service to *FineScale Modeler* magazine readers. The magazine is not responsible for omissions or for typographical errors in names or page numbers.

Acrylicos Vallejo	17
Albion Alloys	8
Alpha Precision Abrasives, Inc.	8
ARA Press	7

Aves Studio	4
Bluejacket Shipcrafters	15
Cedar Creek Trading Post	64
Colpar's Hobbytown USA	64
Dean's Hobby Stop	64
Dragon Models USA	67
Evergreen Scale Models	15
Fantastic Plastic Models	64
FineScale Modeler Books	49

FineScale Modeler email newsletter	63
FineScale Modeler magazine- digital	63
Hornby America	6
MegaHobby.com	4
Metro Trains & Hobbies	64
Micro-Mark	6
Model Rectifier Corp.	68
OldModelKits.com	64
Pace Enterprises	4

ParaGrafix	8
Red Frog Hobbies	64
Roll Models	64
Sprue Brothers	15
Squadron Mail Order	12
Strike Force Hobbies	64
Tamiya America, Inc.	43
TotalNavy.com	64
Wingnut Wings, Ltd	2
Zvezda USA	4

By Mark Hembree

Frankly, it's just for fun

When Terry Davis had a whimsical idea for a modeling project, he wasn't sure what figure to use — that is, until he laid eyes on a Revell reissue of the 1/8 scale Aurora Frankenstein.

"It was in my collection, and one day I was looking for something to build and I just grabbed him," Terry says.

"I had a couple of other monsters, but this one had the right stance and he looked like he could be carrying something, ready to place his latest creation on a contest table. So I went with him."

Fashioning casual footwear took a little work. "There wasn't much detail to the boots," Terry says. "I had to refine the heels and make the soles a little more prominent." He used heavy sewing thread for laces; model-car flocking gave the look of suede. Not visible in the picture are loops of styrene strip for bootstraps. For the jeans, he used thin strips of styrene to form seams, pockets, belt loops, and a belt.

Terry replaced the bolts in the neck with styrene rod, each side finished with a hex head and wrapped with wire to replicate threading.

The pullover sweater has a crew neck formed by lead foil that Terry impressed into its ribbed pattern. At the cuffs, he replicated ribbing by scribing lines in the kit plastic. A decal sheet being handed out at the IPMS/USA Nationals in 1987 (in Anaheim, Calif.) provided a logo for the sweater.

Terry gave the figure a few

 www.FineScale.com

Go ahead: Show your stuff at www.Contribute.Kalmbach.com.



Terry Davis of Bremerton, Wash., welcomes all to his modeling club.

touches of class, with scale chain for a bracelet, a watch, and a wedding ring (must have patched things up years ago). The figure stands on a craft-store cameo plaque topped with tile made from a countertop sample Terry got at Lowe's.

He also scratchbuilt and stained the wood base for the E-2C Hawkeye, an item that came out of an old Otaki 1/400 scale set of aircraft from the U.S. Navy 7th Fleet.

He couldn't recall what year he bought the kit, but no mat-

ter: Unlike the creator of the monster in the movie, Terry's in charge here. Besides, as science-fiction author Aaron Allston once observed, "The good thing about being Dr. Frankenstein is that you can always make new friends." **FSM**



1/48
SCALE

Mikoyan MiG-31 BM/BSM Foxhound

Item # AMK-88003

NEW



1/48
SCALE

IAI KFIR C2/C7

Item # AMK-88001

1/48
SCALE

Aero L-29 Defin

Item # AMK-88002

1/48
SCALE

Fouga CM.170

Magister -
French Two-seat Jet Trainer

Item # AMK-88004



Distributed by:

DRAGONUSA

Dragon Models USA, Inc.
1315 John Reed Court
City of Industry, CA 91745
www.dragonmodelsusa.com

Phone: 1 (626) 968-0322
Fax: 1 (626) 968-0234
E-mail: sales@dragonmodelsusa.com

Order them today!

OBJECTIVE: TOKYO APRIL 18, 1942

**NOW AVAILABLE THE TWIN-ENGINE B-25B BOMBER
USED IN DOOLITTLE RAID LED BY LT. COL. DOOLITTLE.**

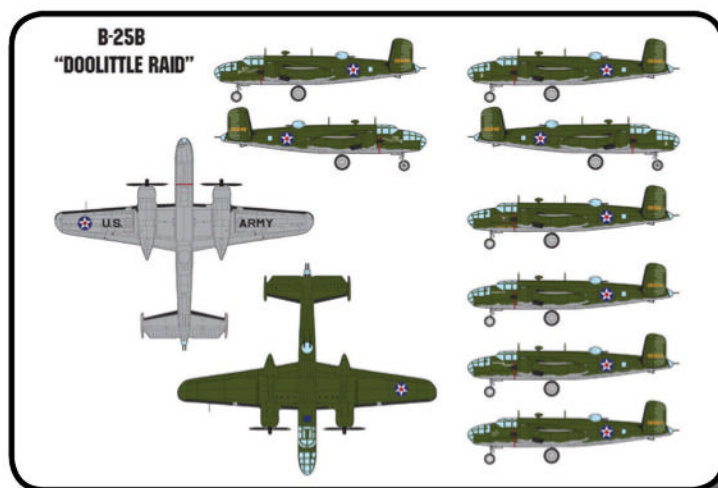


Item #12302 1/48 USAAF B-25B "DOOLITTLE RAID"

The Doolittle Raid was the first U.S. air raid to strike the Japanese home islands during WWII. The mission was the first in which U.S. Army Air Force bombers were launched from an aircraft carrier into combat. The B-25 with a bomb load could take off from a carrier, fly to the target and land in China. Each plane carried four 500 pound bombs, two .50 caliber machine guns in an upper turret, a .30 caliber machine gun in the nose and extra fuel tanks. The planes were launched w/o fighter escort from the USS Hornet.

Details include:

- Over 140 parts
- Radial engine detailing
- Full array of bombs
- Accurately detailed panel lines & rivets
- Large, clear, easy to follow instructions
- Finely engraved cockpit interior & bomb bay
- Plastic parts designed by Accurate Miniatures
- Marking options for 6 bombers used in Doolittle raid



MODEL RECTIFIER CORPORATION
80 Newfield Ave. ■ Edison, NJ 08837 ■ Phone: 732 225 6360 www.modelrectifier.com

TECHNOLOGY. PERFECTED.

☐ Model railroads ☐ Plastic model kits ☐ Battery chargers ☐ Radio control ☐ Scenery ☐ Die cast

ACADEMY

HOBBY MODEL KITS